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ABSTRACT

The successful educational and industrial systems in Japan are related to the social and historical condition of the country. A society that receives ideas and technology of education from other societies must go through the process of adoption, assimilation, and self-transformation. Students of society do not fully recognize the strengths and weaknesses of their own system of education. Therefore, it is a very fruitful endeavor to exchange ideas and views on educational processes and their outcomes, with full recognition of one's total social system before one embarks on the reformation of the present system. This paper includes: "Theories of Children and Their Nature," "The Goals of Child-rearing and Education," "Theory of Process and Method of Child-rearing and Education," "John Dewey's Pragmatism and Theory of Cognitive Development," "Piaget's Theory of Cognitive Development," "Jerome Bruner's Cognitive Psychology," "Skinner's Instrumentalism and Other Stimulus-response Theories," "Bandura's Cognitive Social Learning Theory," "European and Soviet Pedagogy and Psychology," "Japanese View of the Developmental Process and Learning," "Japanese Methods of Teaching and Learning," and "Problems in Japanese Education." (Author/BZ)

THE INFLUENCE OF WESTERN PHILOSOPHY AND THEORIES OF PSYCHOLOGY AND EDUCATION ON CONTEMPORARY EDUCATIONAL THEORY AND PRACTICE IN JAPAN

*** FINAL REPORT ***

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PREFACE

Let me begin with a personal recollection of my elementary school days I was in the third grade of the elementary school operated by Kyoto Normal School for Women when World War II was over. I remember that in the fall of the next year (1946) the atmosphere of the whole school became active and hurried. The teachers were busy preparing for something, but many of the pupils did not know what was going on in the school. Then, one day late in the fall of that year, the school was suddenly crowded with visiting teachers, whose number was more than that of the pupils. Though we were used to having visitors from other schools, we had never experienced such a large number of teachers. I cannot remember what our school activities were on that particular day, but I can clearly recollect the excitement of our teachers and pupils.

After we moved up to the fifth grade in the spring of 1947, we often heard our teachers use words such as "try-out school," "Anderson-san" [Mr. Anderson], and "sogo curriculum" [integrated or core curriculum]. They seemed to be very proud of the fact that our school was participating in an epoch-making educational experiment, and they tried to encourage us.

Many of us liked the social-studies-based "sogo curriculum" because the activities were fun. It emphasized the importance of experience, and of the pupils' spontaneity. Spontaneous explorations of the laws of natural and social phenomena were encouraged. For example, I sat at a street corner to record the number of pedestrians and traffic vehicles passing by, and represented them in a graph. I also measured the temperature of air, river water, and the riverbed for several weeks to discover their mutual relationships. Both of these projects were strongly praised by my teacher. With two other friends, we visited the central freight yard in Kyoto to collect data on the movement of goods to and

from Kyoto, and we visited shops and department stores in Kyoto and Osaka to compare the prices in the two cities. My teacher was also enthusiastic in printing verses and poems written by the pupils. In addition, I belonged to clubs such as the chorus and social survey. The survey data we took and displayed first was done with the pocket money allowed to pupils. I was also interested in insect collecting, and I belonged to a baseball "farm team."

Another thing I still remember well was the administration of a group intelligence test at the school which, I suppose, was introduced to our school to "understand the pupils" better. I happen to get a high IQ score and my teacher told it to the class. Within a few days, not only my peers but also some of the sixth-graders began to call me "genius." This struck me because I had often suffered feelings of inferiority and had thought of myself as mediocre. The official evaluation of my intellectual ability by a "scientific" measure gave rise to my popularity among peers, and gradually I began to behave accordingly. I was challenged to read such works of classic Japanese literature as *Heike monogatari* [the tale of the Heike], and I wrote a novel or two. In any event, the last two years of elementary school were the high spot of my childhood.

In the spring of 1949, I entered the junior high school operated by the normal school, which by then had been converted to a college. What surprized me first was the criticism made by a language teacher of the education we received in the elementary school. His point was that the core curriculum had neglected the acquisition of basic academic skills, which I could understand well. To make things worse, the caotic situation after the war made the curriculum of the school inconsistent and unstable. For example, I believe that we learned logarithms at grade seven, and the materials one English teacher chose for us were at least one year advanced in their difficulty level over the average

textbook. The embarrassment I experienced made me not so happy at school. Though I was not an undiligent student, I often escaped from the real world into the world of literature.

While I was searching the literature for this paper, I came across some information related to my experiences in elementary school. For example, I found out who "Anderson-*san*" was, and became aware of the source of enthusiasm of my teachers. Anderson (1975) himself wrote:

> At the operating level of the Prefectures, the Japanese teachers and administrators generally saw the school reforms as a great improvement--one that they had been planning even before the war. Their endorsement was thus given wholeheartedly, and they worked cooperatively with CIE officers on prefectural military government teams, who were often themselves dedicated teachers concerned with the welfare of Japan's children and committment to improving their education (P. 86).

I also found the word "try-out school" in American books. For example, Kobayashi (1976) described:

> In the Kyoto-Osaka area, for example, a Try-Out School Association was formed by school masters to promote the sharing of the results of experiments in democratic schooling. Several of the schools used "progressive," "experience centered" approaches to school curriculum (P. 189)

In a Japanese book (Shitahodo, 1957) I found a history of the association and a brief record of our elementary school. According to the record, the "sogo curriculum" was based on the more than two decades old tradition of sogo learning

at the elementary school, and was created from the desire to face up to the reality of defeat. The record seemed to emphasize both continuity from the pre-war period and adaptation to the new situation. The sogo education plan, based on the past two years of experience, was presented to 1200 visitors from other schools in December of 1948.

In 1949, however, the education plan of the elementary school was largely revised. The teachers were concerned about the basic academic skills of the pupils. That was exactly the same year I was shocked by the criticism made by my junior high school language teacher of the sogo curriculum. The research topics of the elementary school from 1952 to 1954 are centered around "overcoming the inherent contradictions of the sogo education," "basic academic skills of language, arithmetic, and science," and "reconsideration of the new education."

Around the same time, without knowing so much about the arguments in the elementary school from which I graduated, I personally began to overcome my difficulties. After we had finished with the eighth grade, a group of pupils, including myself, were talking with a junior high school home economics teacher. She happened to have the class standings, and individually told each of us what our rank was. I don't remember precisely but my class standing was around 10. She also mentioned the names of several pupils who were above my position. For the first time in my life I was informed of this, and I was deeply shocked with my rank. I thought, "My intelligence is rather high, as many of my friends have recognized. I should not have such a relatively low standing in my class!" This was the middle of March, 1951. Immediately I began to study very hard, and to the surprise of my teachers and parents, my grades improved enormously in late July of that year. What motivated me most was the discrepancy between my actual class standing and my perception of the expectation by our peers who knew of my

intelligence level. If my elementary school teacher had mentioned my score on the intelligence test only to me personally, this knowledge would not have had so deep an influence on me.

The immediate feedback I got--four months of hard studying and an abrupt improvement in my grades--motivated me enormously, and I studied hard and had kept consistently high standing during the ten years to follow. In a word, I greatly profited from personally overcoming the problems of "the new education" in my elementary school days and that caused by transition from an experience-centered elementary school to a subject-centered junior high school. Ironically, an intelligence test the elementary school introduced to understand pupils was the strongest motivators for my hard working at the junior high school.

Did I completely outgrow the new education? Did I receive nothing from my experience in the elementary school? The definite answer to this question is very hard to give. At the subjective level, however, I can say, "The seed sprouted nearly 30 years after it was sown!" I had a chance to spend a year at Harvard when I received a grant from the Harvard-Yenching Institute from 1976 to 77. In addition to publishing two journal articles on children's cognitive styles in American psychological journals, my experience at Harvard triggered me to embark on a new research topic--a historical study of Japanese theories of child-rearing and education in Edo-period Japan. Without any training in history, I analyzed materials related to the theme. Especially in Japan, there is a question of "turf"--a developmental psychologist without any training in history should not be concerned with history. In America, however, I was encouraged by my colleagues, and during my search for and analysis of the materials, I felt the same kind of enthusiasm that I experienced in my elementary

school days. Within a few years I began to present and publish several papers in this field. I suppose that my publications related to child development theories in the Edo period gave me the opportunity to submit this commissioned paper.

Now in retrospect, I can see that my experience are made up the of the following sequence: (1) exciting, spontaneous and autonomous exploration; (2) systematic acquisition of academic knowlegde, skills and methodology, and (3) free exploration in a new field again. The first phase obviously had an influence on motivating my exploration in the third phase. My personal reward in the third phase led me to pursue another topic, i.e., the present report. In that sense, at the individual level, this report is not unrelated to the new education in post-war Japan, and to the influence of John Dewey's theories.

This report consists of three sections. In the first section, I will review the traditional theories of child-rearing and education in Japan as an antecedent of Japanese education after the Meiji Restoration in 1868. In the second section, I will review major Western philosophy and theories of psychology and education in their relation to contemporary educational theory and practice in Japan. This section is a slightly modified version of the literature review submitted in October. Finally, in section 3, I will discuss contemporary Japanese views of learning and development, and methods of education.

I am clearly aware of the fact that preparation of a paper for each section or sub-section of this report would require at least a few years' work. Therefore, the present report is neither extensive in its coverage nor intensive in its content. However, if this report can stimulate further investigation in the field, it will have served its highest hope.

PART I TRADITIONAL THEORIES OF CHILD-REARING AND EDUCATION IN JAPAN

A. INTRODUCTION

This section will review antecedents of modern theory and practice of education in Japan To that end, let us focus on the basic characteristics of the theories of child-rearing and education prevalent in the Edo period (1600-1867), especially the period from the mid-17th to the mid-19th centuries. This period has been selected by two reasons. First, as will be explained soon, Western influence in the realm of child-rearing and education was minimal. Second, as noted by several writers (e.g., Anderson, 1975; Dore, 1965; Kobayashi, 1976; Kobayashi, 1984; Passin, 1965; Shimabara, 1979), Japanese education in the Edo period was a foundation from which education after the Meiji Restoration in 1868 developed.

Theories of education by major authors in the Edo period have been compiled and analyzed by Japanese scholars (e.g., *Nihon kyoiku hoten*, 8 volumes, Tamagawa University Press; relevant volumes of *Nihon shiso taikei*, Iwanami Shoten). However, the Japanese articles which have analyzed theories of individual writers or of individual schools of thought have not addressed the question as to what were the basic characteristics of the belief-value system of child-rearing and education during the times they cover. What kind of naive concepts and theories of human development and education did the people in general have at that time? In my view, these theories and concepts are found to have had an important role in the process of adoption and assimilation of Western theories after the Meiji Restoration. This section is based on my work in this field, part of which will appear as a journal article soon (Kojima, in press c).

This paper forms a part of my work on historical continuity and change and the adaptive value of the belief-value system of child-rearing in Japan (Kojima,

in press b). Three factors have influenced my study of the beliefs and values concerning child-rearing and education in the past. First, it is important not only to investigate the specific child-rearing practices and educational methods of those times, but we must also construct the beliefs and values underlying them, for by revealing them we will be able to elucidate the specific meanings attached to the practices. Both experts who gave advice on child treatment and people who sought it needed a specific meaning attached to a practice. This is because once a specific meaning has been attached to a practice, it will be followed more stably, and in addition, it may actually come to perform the function, as defined by people's subjective interpretation of the practice.

Second, both writers and readers, throughout their formative period in life, construct their own view of the child, adopting suitable beliefs and values from the concepts and ideologies of society, and modifying them through personal experience (Kojima, in press b). The writers recognize certain discrepancies between their own views and those of the generalized readers, and try to persuade the readers by dealing with the perceived discrepancy. Therefore, the taking into account the internal thought processes of writers and readers related to naive theories of child development as well as the social contexts surrounding them may promote our understanding of the child-rearing situations in those days.

Third, as a psychologist in the field of child development, I can find many important insights into and knowledge about developmental processes in the theories of the Edo period (1600-1867) as well as in those of their sources, i.e., Chinese books on medicine and child care. For example, the norms of perceptual and motor development in the first year of life as reported in a 7th century Chinese book turn out to be very accurate. Additionally, as early as 1703 a Japanese physician stressed the importance of responsiveness on the part

of caretakers for infant development. A son's identification with his father was also discussed by a 17th century Japanese writer. In a sense, they were very perceptive and insightful concerning the developmental process of children Not only that, there are several things we can learn from their naive theories, including, for example, the importance of attitudes and values related to acquisition of skills, and the importance of the quality of interpersonal relationships between adults and children both as prerequisites and goals of successful discipline.

A1. Historical background

First, let me describe briefly Japanese society during the Edo period. Tokugawa Ieyasu, who established supremacy in 1600, created a system of rule for the country. It consisted of centralized political power in Edo--later to be called Tokyo--and local feudal control. In addition, in an attempt to establish political stability in the nation, social mobility among the classes was restricted. Four social classes were distinguished: warriors, peasants, artisans, and merchants, in descending order of rank. The distinction between the warriors and the other classes was the most rigid. The artisans and the merchants who lived in towns were virtually indistinguishable. These political and social systems were efficient and stable, lasting for two and a half centuries. Thus, after 1600 Japan took a different route of development from that followed by the major European countries.

Christianity had been introduced into Japan in 1549 by St. Francis Xavier, and Christian missionaries were rather successful in western and central Japan The Tokugawa shogunate's fear of Christian influence led Japan to isolate herself from European countries around 1640. Incidentally, the first Western visitors to Japan were believed to be the Portuguese in 1542. From the middle of the 17th

century, the Chinese and Dutch trading posts located on a small island in Nagasaki harbor were virtually the only official window to foreign countries other than Korea during the next two centuries.

By the 18th century, however, the fear of Christianity had receded and the shogunate relaxed its ban on Western books, except for those on Christianity. Many interested scholars traveled to Nagasaki to learn Dutch and Western technology. In the beginning, they took a special interest mainly in medicine and technology. Interest in Western political and social systems, including social welfare, increased during the second half of the 18th century. This is because during the second half of the Edo period the economic situation of the rural districts was deteriorating, due in part to the commercialization of the nation's economy. Differentiation between rich and poor peasants began to increase, leading to serious impoverishment among many peasants. The feudal lords and the warriors who depended on the rice produced by the peasants could not keep pace with the nation's rapid economic growth and occasionally fell into serious debt to the wealthy merchants in the big cities.

In 1858, Treaties on Commerce were concluded between Japan and the United States, the Netherlands, Russia, Great Britain, and France, and Japan gradually began to open herself to Western countries. Unlike the interest in medicine, technology, and political and social systems, interest in Western child-rearing practices and Western theories of development and education did not develop in this country until the Meiji Restoration in 1868.

In the Edo period, several factors, including political and social stability, economic growth, the growing literacy rate, the advancement of printing techniques, and concern of the bureaucrats, led to the publication of various documents about child-rearing and education.

A2. Materials for analysis

The chief materials for the present analysis are documents about child-rearing and education written by the experts of the times and meant for the general public. It was in the middle of the 17th century that theories and methods on child-rearing and education became available to the public. The more than sixty extant documents written during that period vary widely both in the background of their authors, the intended readership, and contents. Some contain the value system of the warrior class, others are Confucian. Some books and articles were written by warriors, Confucians, and physicians, while others were written by townsmen, peasants, local government officials. economists, and priests. Though almost all of them were written by men, a few were the products of women.

Although the actual circulation of child-rearing documents in those days is hard to estimate, a few factors point to a wide readership. First, the literacy rate (compared to that of contemporary European countries) was rather high. Dore (1965) estimated that the school attendance ratio during the late Edo period was about 43 percent for boys and 15 (or 10) percent for girls. The warriors, who made up about six to ten percent of the population, were transformed into a bureaucratic class, and had a literacy rate that was probably close to 100 percent. In addition, some of the child-rearing books underwent different printings, and there was a wide variety in the content of the books. It is estimated that in those days they made from two to three thousand prints from a wood block.

The advice on child-rearing and education was addressed mainly to fathers and secondarily to mothers. This was because fathers were expected to decide on the family's policies concerning child-rearing and education. However, the

mother's deep influence on the child's personality development was also recognized. For example, Nakamura (1661/1976) pointed out that even boys spent much time with mothers and were influenced profoundly by them when young. He encouraged mothers to train children properly, and to not forget their great influence on children. Kaibara (1710/1976), however, was concerned that women tended to take temporizing measures and overindulge children, thus spoiling them. Incidentally, it was only after the Meiji Restoration that the need for the formal education of women was fully recognized as important for the enrichment and strengthening of the nation. Japanese official visitors sent to Western countries around the middle of the 19th century were deeply impressed by the fact that well-educated mothers in those countries reared and trained their children properly and performed house management roles wisely. Those Japanese visitors were willing enough to acknowledge maternal training as an important basis for the future development of the nation. Education for making good wives and wise mothers, based on Japanized Confucian concepts (Hong, 1978), was promoted by the government during several decades to follow.

In this section, I will analyze written materials related to children under the age of six or seven, and to children over that age. In those days, the age of six or seven years was seen as a major turning point in the lives of children. At that age, children began to have assigned tasks, and boys and girls were treated differently. Some writers of the Edo period commented on the differences of disposition and behavior in the sexes after that age. These differences were attributed to the basic nature of the two genders, an idea which also originated in China.

It can be inferred from a number of sources that up to that age adults were nurturant and permissive, or even indulgent, to children (Kojima, in press a).

Kojima reviewed Japanese traditional attitudes and sentiments related to the young. By referring to several literary works, diaries, descriptions by Western visitors from the 16th to the 19th centuries, and ethnographic data, Kojima characterized the Japanese traditional attitudes and sentiments with regard to children as very nurturant. Japanese adults acknowledged the importance of the young for the family and community. Not only did they treat children with much care, they also recognized special characteristics of children and they adjusted their ways of treating children accordingly. For example, a family diary written by a low-ranking warrior (Watanabe, 1839-48/1984) includes many descriptions of parents' and grandparents' deep affection for children. Also described in this diary is the parents' interest in the developmental changes in their children. The parents are keen to recognize and enjoy both the childlike acts of their children and the emergence of new skills. Both parents and a resident baby-sitter seemed to find many opportunities to take their young children to various places in their small town to entertain them. It was not simply that children could mingle with adults' activities, but a considerable part of adults' daily life was devoted to child-centered activity.

In what follows, I will present the results of a content analysis of these sources. Out of 69 child-rearing ducuments compiled by Yamazumi & Nakae (1976), eleven were excluded from the present analysis because they were either private family precepts or were written after the Meiji Restoration. Where necessary, I will refer to some of the Chinese sources which were often quoted by writers in Edo-period Japan. From a total of 58 documents written by experts of those times for the general public, I isolated descriptions which were related to any of the three large categories of content to be described below. Then these descriptions were assembled and compared. Metaphorically speaking, I took mental pictures of

various documents in those days and printed those multiple pictures onto a single sheet of photographic paper to be developed in my mind. I will use this developed picture to describe several characteristics of Japanese child rearing concepts. They consist of three interrelated parts, i.e., (1) theories of children and their nature, (2) the goals of child-rearing and education, and (3) theories of process and method in child-rearing and education.

B. THEORY OF CHILDREN AND THEIR NATURE

Most early Japanese writers assumed, implicitly or explicitly, that human nature was fundamentally good. This position originated with the Chinese Confucian philosopher Mencius [372-289BC]. According to him, all evil in human beings is the result of events that corrupt the originally good nature of the child. But as another Chinese philosopher, Zhu Xi [1130-1200], contended, the goodness inherent in children was thought to be actualized by experience. This position was most explicitly stated by the Japanese writer Kaibara (1710-1976), who argued that every child was born with the potential for five virtues (warm heartedness, righteousness, decorum, wisdom, and sincerity) but that these would not be actualized without the assistance of learning. People were encouraged to model themselves after some sage of old, so as to maintain humility and remind themselves that complete understanding could never be achieved.

Some writers commented on individual differences among children which they believed to be innate. Most emphasized, however, that apart from a few exceptional cases, most children were similar to one another in their innate moral character and intellectual abilities, and that differences could mainly be attributed to environmental factors. At the same time, the presence of opposing views can be inferred from the fact that one writer argued against an interpretation which attributed a son's bad conduct to his innate evilness

(Kaibara, 1710/1976).

The early Japanese emphasis on environmental factors as the explanation for differences among children does not mean that they conceived of children as passive beings in relation to experience. On the contrary, children were viewed as autonomous learning organisms. Kaibara (1710/1976) believed that the child learned things, especially through imitation, from the earliest period of life, and that the first habits learned would become dominant. Thus it can be said that Japanese writers thought educational intervention was necessary to keep the autonomously developing child on the morally right course from the standpoint of adult society.

C. THE GOALS OF CHILD-REARING AND EDUCATION

C1. Basic values

The goals of development were different for the three classes--warrior, peasant, and townsman (artisan and merchant), and for gender. On a more abstract level, however, the goals had some common characteristics. Many of the specific goals were related to one of the following two values.

Harmonious human relationships. First, harmonious human relationships were emphasized. This is a basic Japanese value. Confucianism, which emphasized ethical human relationships from a particularistic standpoint, was not incompatible with this goal. Confucianism, for example, defined the ideal relationships in terms of particular role relations, such as parent-child, husband-wife, and elder-younger. The Japanese, too did not mean by "harmonious human relationships" those which are universally applicable to any situation. They meant instead relativistic standards which differed from each other depending on the particular role relation between the persons involved.

The fact that the early Japanese writers emphasized harmonious human

relationships can be seen from the relative predominance of harmony related items advocated over others. Thus, for example, out of the thirteen items which the townsman Wakisaka (1803/1976) enumerated for parents to indoctrinate in their children, nine were related to the maintenance of harmonious relationships Included in these are prohibitions concerning:

1. Telling lies and being dishonest to parents.
2. Not answering parents when asked and talking back to them.
3. Not paying respect to grandparents and the aged.
4. Selfishness and short-temperedness.
5. Inconsideration for servants.
6. Cruelty to insects and quarrelsomeness.
7. Self-assertion in everything.
8. Belittling others and pride in the self.
9. Obscene speech and lack of proper manners between male and female.

Tejima's address (1773/1976) to the boys (seven to fifteen years old) and girls (seven to twelve) of townsmen also illustrates these value orientations. Eight items out of fourteen are related to interpersonal relations. I will mention only those items which do not duplicate Wakisaka. Tejima taught, "Never laugh at handicapped people," "Girls should understand the distinction between male and female, and should behave discreetly," "Females should not act at their own discretion," and "Girls should help their mothers to relieve their labor." It is of interest to note that the room where Tejima lectured three times a month, separated the girls' section from boys' by reed screens.

Kaibara's (1710/1976) value system was mainly that of the warrior class. He emphasized the following points. (1) Children should have tender feelings, affection, mercy, compassion, and warm heartedness to others. (2) Without

decorum, man is not different from beasts. (3) Discretion, which means to caution oneself against fault, is most important, especially for young people (4) Sincerity means fidelity and lack of falsehood in speech. Discretion in deed and sincerity in words are the basic ways to morality. (5) Man should be willing to listen to others' admonitions against his deeds and speech, because he will profit most from them. (6) Children should restrain their anger and endure everything. (7) Children should practice filial piety toward their parents in order to return only a small proportion of parental gratitude. (8) However clever a man may be in anything else, he will not become a true adult if he is greedy.

Filling the role. Second, to know one's role, to accept one's place in society, and to work hard to perform one's assigned task faithfully were strongly advocated. This was not restricted to the warrior class. Yamana (1784/1976), a peasant, tried to promote the dignity of the peasants by arguing that if they realized their wisdom and virtues they could attain respect from the other classes. Baigan Ishida [1685-1744], who formulated a practical philosophy for townsmen, insisted that economic activities were not as ignoble and tainted as people at that time were led to believe. He said that to profit in trade was no different from the work of the warrior. One of his pupils, Wakisaka (1803/1976), wrote that the most important thing for man is to pursue his vocation and perform his role in the family and in society through the exercise of thrift, honesty, patience, and familial harmony.

In all social classes and for both genders, acquisition of basic academic skills was not considered unimportant, but training and education for moral character were emphasized more strongly. This was because competent people without the proper character were thought to be dangerous to the existence of the

group.

A basic value system generally based on Confucianism was thus strongly recommended for all classes. It is questionable, however, whether this pervaded people's thinking and directly determined their ordinary behavior. As I have discussed elsewhere (Kojima, 1979a), Japanese behavior standards, at least at the present time, are dual and relativistic. They consist of *tatemae*, or an ostensible and often idealistic principle, and *hon'ne*, or true intention. One can mentally compartmentalize these in the mind using one or the other depending on the situation. This provides a means of adjustment to the complexity of often mutually contradicting role expectations. This may have originated as a coping strategy by people in the Edo period (Tsukishima, 1984). Therefore, we should try to reveal the actual goals of child-rearing and education which were operative at that time.

C2. Differences in goals

Though the basic value system of the times was recommended for all classes and for both genders, there certainly were differences in the concrete goals for class and gender. Because the construction of the basic value system was primarily meant for males of the warrior class, I will briefly describe the goals for females and the other classes. I will also describe the goals especially applied to high ranking people in the warrior class.

Women. As is generally the case in all historical times and cultures, gender was a basic category for conceptualizing role behavior in Edo period Japan. Both Yamaga (1663-5/1976) and Kaibara (1710/1976), however, did not note any essential differences in the ways of teaching boys and girls. For example, Yamaga says that the basic principles of teaching and admonition for girls is no different from those to be used for boys. The main difference, according to him,

is that girls are to be taught to be tender and obedient, to assume their gender roles, and to try not to hear and see anything improper.

Though Kaibara (1710/1976) admits that women are prone to be shallow-brained, he does not consider women as inferior to men. Therefore, he says that the early rearing method for girls should be generally the same as that for boys. Kaibara stresses the importance of the three R's and moral education for girls, too. However, the goal of training and teaching girls is to make them good wives who conform to and strive to maintain the family which they are married to. Thus it becomes important for girls to learn the ways of woman. For example, a woman should respect and obey her parents when she is young; after marriage, she should obey her parents-in-law and husband; and finally, after her husband is dead, she should obey her son. She should also be trained to be gentle, obedient, and proper in mind and behavior; to be discreet in speech; to be clean and tidy, but not gorgeous in appearence; and to be industrious in weaving, sewing, and cooking. Many of the ideas come from China.

Townsmen. Ishida formulated a practical philosophy of life called *shingaku* [learning of mind], especially for the merchants. The value system of the *shingaku* school was mainly Confucian, with a mixture of Buddhism, Shintoism, and other thoughts and religions. Ishida and his diciples propagated a work ethic which was not unlike the so-called Protestant work ethic. For Wakisaka (1803/1976), the goal of learning is not to be well-informed and knowledgeable, but to acquire the traits of the human being, to achieve virture and harmonious family living, to work hard, and to realize and accept one's place in the society. This notion was congruent with the Shogunate's policy. As a matter of fact, *shingaku* gradually began to serve as an adult education measure for classes other than merchants.

Peasants. Oka (1820/1976), a *kokugaku* [nationalistic learning] scholar, instructed peasants to realize and accept their own place in society and to fulfill their duty. His dogma was that the children of peasants should be taught to work hard to produce crops for the ruling class, for part played by the latter was important, comparable to the role of the head in the body, while peasants serve merely as the hands and feet.

On the other hand, Yamana (1784/1976), a peasant, was conscious of the dignity of the peasants. Yanama argued that there should be no distinction among the classes as to the ways of actualizing virture. He believed that by cultivating themselves and properly managing their family, peasants could contribute to the nation. Yamana encouraged learning by peasants' children after eitht years of age in order to actualize the basic Confucian virtures. However, he also advised against learning not accompanied by the fulfilling of one's own duty in the family and the community. Ninomiya [1787-1856], a peasant, also emphasized the dignity of the profession of farming. Himself a peasant who succeeded through hard and thoughtful work, Ninomiya contributed to economic recovery of a number of feudal lords. He was respected as a philosopher of praxis and had disciples even from the worrior class.

High ranking warriors. Responsibility, willingness to listen to the advice of others, self-restraint, and compassion to others were the virtures especially expected of the high ranking warriors. Therefore, Kaibara (1710/1976) says that training of their children should begin early in their lives because it will be hard to admonish them later when they become powerful. Without proper early training, he thought, they would not be able to understand the suffering of people, and thus would become unsympathetic, leading extravagant lives.

Children of the rich and the noble were often treated with too much respect.

surrounded by flatterers, brought up in luxury, with everything proceeding as they wished it to. The consequence of this, Kaibara says, was that they became proud of themselves, did not restrain themselves, became capricious, enjoyed amusement and disliked learning, and resented others' admonitions, thus ceasing the development of their abilities and wisdom. Because these children are expected to inherit the responsibilities of ruling people in future, their proper training was critical to the maintenance of the organization and the well-being of their subordinates.

In conclusion, within the framework of roles, each person was expected to realize within himself the common virtures. In that sense, everyone was equal This equality was not qualified as being in the sight of God, but was seen as being in the virture of human beings in society. Within that framework, a particular adult form was clearly defined as the ego ideal for each child, and the child was guided through the stages of his or her life toward this ideal

D. THEORY OF PROCESS AND METHOD OF CHILD-REARING AND EDUCATION

D1. Timing for training and education

The basic method of child training and education was to observe children's maturation and assign age-appropriate tasks to them. Though the writers stressed the importance of early training, they did not mean by this the earliest training, but rather training that would come when the children were ready for it. This concept can be traced back to the work *Li chi* (Record of Rituals) compiled about the first century BC in China. Basing his argument on this document, the Japanese writer, Yamaga (1663-5/1976) maintained the following. Premature teaching gains nothing, and requires great toil. When a baby is born, keep it quiet and do not stimulate it. Attempt should be made to guide and shape it only after behavior emerges from inside.

D2. Treatment of infants

Generally speaking, infants were conceived as physically and mentally unstable, sensitive, and fragile beings. They were thought to be at risk from excessive external sensory or psychological stimuli. Therefore, it was maintained that caretakers should carefully avoid exposing infants to high intensities of stimulation. The writers often seemed to threaten readers by appealing to their anxiety. Thus for example, Kazuki (1703/1976) and other physicians warned against the practice of exposing infants after sixty days of birth to unfamiliar persons and objects, or to sudden, loud sounds. They attributed a mortal illness called *kyofu* to strange sensory experiences, and to the vulnerability of young infants. These interpretations originated in China.

A handbook called *Qianjin Yaofang* [Ready-reference Handbook to Save Invaluable Life], compiled by the Chinese physician Sun Si-miao (1974) in the middle of the 7th century, is believed to have been brought to Japan by the end

of that century. Sun wrote that care should be taken so that young, unstable infants were not surprised by loud voices or thunderclaps, and if such were inevitable, caretakers should hold the infants securely to soothe them. Interestingly enough, however, Sun maintained that mild surprise had a beneficial effect on infants' physical development. Thus the value of exposing infants gradually to external stimulation was clearly recognized.

There was also a concern about overprotection or spoiling the infant through too much outerwear or too much food, both of which were thought to make the infant ill. Some Japanese physicians quoted an old Chinese saying, "Thirty percent hunger and cold makes a child healthy." In addition, exposing older children to mild deprivations and hardships was thought to express parents' true consideration for them because this would enable them to endure hardships when they were called upon to perform adult roles. As indicated earlier, one of the basic goals of training and education was to enable children to work hard to perform their assigned tasks faithfully. In this sense, it was felt that socialization needed to begin very early in life. It can be said that even infants were regarded as human beings, to be integrated into society.

Kazuki (1703/1976), a Japanese physician, also warned against both overprotection and overstimulation and emphasized the importance of responsiveness on the part of caretakers, especially when dealing with young infants. In his book on medical care and training for children, Kazuki wrote that sixty days after birth the baby's pupils are formed. As a consequence it can recognize people and will smile and vocalize to them. He advised against overstimulation of the sensitive baby. Instead one should talk and vocalize to the baby when it smiles and vocalizes, for this will encourage the development of speech and even free the baby from fear of unfamiliar persons. He also wrote of

innate differences among children in their proneness to anxiety, especially regarding strangers. He maintained that caretakers should try to lead children in the direction of proper goals, taking opportunities when changes in child behavior and competence occurred. In this sense, we can see a clear combination of maturationist view of development and the role of adult society.

Kazuki's writing was based on a combination of clinical experience and descriptions in Chinese medical books. One of the Chinese sources he often quoted was a book on health care by Wang Zhong-yang of the Yuan dynasty [13-14C]. Based on milestones of development in ancient Chinese medical books, Wang characterized the time of about sixty days after birth as the beginning of the sensitive period in infant development. The concept of milestones of development can be traced back to *Qianjin Yaofang* or earlier. The phase which begins with smiling and vocalization to people at sixty days and ends with walking at 360 days is essentially similar to that described in relatively recent developmental norms in Japan (Ueda, 1977).

D3. General process of learning and training

Japanese writers stressed the importance of both modeling and direct teaching. Kaibara (1710/1976) noted that a young child did not distinguish between good and bad and therefore imitated everything he saw. That was why the proper selection of models, e.g., parents, wet and dry nurses, attendants, and friends, was of utmost importance. Yamaga (1663-5/1976) discussed what we now call identification. A young child who believes that his father is the richest, noblest, and most virtuous person in the world will begin to imitate him. Hence, Yamaga said, it is an error to ask a child to behave with restraint if the parents do not behave similarly.

One basic characteristic of Japanese ways of teaching children over six or

seven years of age in the pre-Meiji period was that no attempt was made to control the learner's behavior externally. Instead it was attempted to make the learner understand the whole procedure, and he was expected to regulate his behavior by himself. This method is commensurate with the view, mentioned above, of the child as an autonomous learning being, who was very difficult to control completely from the outside. This orientation also informed approaches to direct teaching.

The 16th century Jesuit missionary Luis Frois (1565/1577) was surprised by the mild disciplinary methods practiced by Japanese adults. Many Japanese writers indeed recommended mildness in the direct verbal teaching of children. They said that children should be admonished in a firm but calm manner, and that adults should not use abusive language or show anger or impatience. Such behavior leads children, especially those above the age of ten (Hayashi, 1786/1976), to resent and eventually disobey the urgings of the older authority.

They also did not recommend excessive praise of older children because they were afraid it would make them arrogant and resentful against admonitions from their elders, thus obstructing the development of ability and of wisdom. On the other hand, the townsman Wakisaka's (1803/1976) instructions on the training of young children were more permissive. He said that a young child was not intellectually developed enough to understand the parent's motives and that the child could come to fear parents who were too severe. He recommended praising of children's good conduct rather than using corporal punishment for misbehavior, because the child who was praised would automatically want more praise and therefore would naturally move toward proper behavior.

D4. Methods of teaching children

Kaibara (1710/1976) and Emura (1783/1976) were the reperesentative experts

of Edo-period Japan to develop any systematic teaching method and curriculum for elementary and advanced learning. This section will review their writings briefly.

To Japanese writers, the primary objective in reading books by ancient sages was to cultivate virtures. Formal teaching began with reading. After that, children were taught the three R's for practical purposes. Kaibara (1710/1976) advocated that regardless of social class, every one should learn to write, for without this ability man lags behind in his everyday life. Though arithmetic had traditionally been considered to be an ignoble art, Kaibara (1710/1976) and Kazuki (1703/1976) asserted that training in arithmetic was, from the highest people to commoners, indispensable to life. Learning of the three R's was also encouraged among the townsmen. Even the peasant writer Yamana (1784/1976, encouraged peasants to send their children to the *terakoya* [feudal writing schools] after the age of eight. Members of all the social classes considered the selection of teachers with good character as most important. It was thought that because the teacher was the model for children, his personal character was critical. Children should not be taught by teachers with bad character, no matter how talented the teachers might have been otherwise.

Basing his arguments on *Li chi*, Kaibara (1710/1976) wrote that in January when a child was six years of age, he or she should first be taught the words for numbers and the cardinal points. Children should gradually be taught to read and write the fifty characters in the Japanese syllabary, in accordance with their intelligence. Kaibara emphasized the importance for the beginning learners in breaking materials into small portions so that they could be easily learned. He discouraged fast learning and emphasized the importance of understanding and retention through repeated practice. In this sense, the effect of overlearning

was clearly recognized. It was argued that even the slow learners could finally attain the minimum essentials by patient learning. At seven, children were thought to have intellectually developed enough to understand what they were told, and depending on their intelligence, they should gradually be taught age-appropriate manners. Kaibara continued to explain the age-related teaching curriculum (content areas, choice of learning materials, and teaching and learning methods) in detail for the key ages of eight, ten, fifteen and twenty.

Emura (1783/1976) published a systematic method for teaching and learning in reading, writing, history, composition, poetry, and other related subjects. With regard to teaching methods to be used for beginners, he referred to theories by other authors and to the common practices of the time, and evaluated the effectiveness of these methods. For example, by referring to a strict teaching method for the beginning readers, he advised against such method and explained the reason as follows: children might think that learning to read was a hard thing, but they were forced to learn due to fear of being punished by their parents. That would make them dislike reading, which would be counterproductive. The method Emura recommended was to expose young children to interesting picture books first, and only after they became interested in them and began to ask questions or ask to be read to, should adults begin to teach them the names of pictures and characters. He also gave lists of picture books and reading materials.

The methods recommended by both Kaibara and Emura consisted of deliberate programs of learning. Their methods were very concrete and the writers did not fail to provide readers with rationales for adopting their methods. These methods for teaching young children apparently developed out of the writers' own teaching experiences. However, at the more abstract level, such concepts as

timing of teaching, student's learning capacity, spontaneous and self-directed learning activities, and adjustment of teaching methods in accordance with the characteristics of the students can be found as early as the *Li chi* in China (Hong, 1978). In my view, the basic framework of theories of education in Edo-period Japan often originated in China. What Japanese writers did was to implement the basic ideas into a systematic and concrete method of teaching and learning.

D5. Schools for youth

The common theme of the theories for many educators and leaders of the Edo period was the integration of thinking and practice, and of theory and reality. To mention a few of these, Tohju Nakae [1608-1648], Baigan Ishida, Sontoku Ninimiya [1787-1856], Yugaku Ohara [1797-1858], and Tanso Hirose [1782-1856] emphasized the importance of consistency and integration of their theories and their educational or social reform activities. Ninomiya and Ohara, in particular, worked as theoretical and practical leaders in the reform movement of the peasants. While Ninomiya's movement was accepted by the feudal lords who were suffering from the impoverishment of the peasants, Ohara's movement, more radical in its position, was surpressed by the Shogunate. In addition to the feudal clans' formal schools and the *terakoya* for the children of the commoners, many private *juku* were established by warriors and Confucians.

The prime time for the establishment of these *juku* was around the middle of the 19th century when Japan was in a state of turmoil. Many of these were located in the western part of Japan, and the students who studied in these private schools took active roles in the Meiji Restoration. In this age of great social change, it is not surprising that the integration of theory and practice was emphasized in these schools. It is of interest to note that teaching methods

of these schools also matched their position on education. For example, Hirose took an equalitarian position in learning. Though the main textbooks taught in Hirose's school were still Confucian classics, his attitude towards students may be characterized as equalitarian. Thus he basically ignored three characteristics in his students: their age, past learning history at other schools, and social positions. The discarding of these factors, Hirose thought, would allow students to be involved in the learning process quite independently of the social restrictions associated with social class and age. The students at Hirose's school were evaluated only by their achievements at the school. Without this kind of reformation, it was difficult to pursue the the education which aimed at the integration of theory and practice.

D6. Interpersonal relations

To the Japanese the training of children was not simply a technical matter but one that involved the deepest reciprocal relationships between parent and child. Parent-child relationships were not conceived of as one-way relations such as parental love or involvement and the child's attachment, or as combination of two one-way relations. Rather, the quality of the relationship between parent and child as a transactional system was at issue. For example, Mencius wrote, "Between father and son there should be *qin*." *Qin* is a Chinese word which means kin-like closeness and affection. Quoting this sentence, Yamaga (1663-5/1976) suggested that there was a reason why Mencius did not use the word "love." Love is a one-way sentiment which implies favor and selfishness and it can lead to dislike. *Shin* (the Japanese pronounciation of *qin*) is a much deeper sentiment, developed as a product of the past history of transaction between the two and with a sense of mutuality. The core of this sentiment is a humane, flexible, and considerate relationship between parent and child. Not only were

these relationships the basic requirement for successful discipline, they were also the goal of discipline itself, which could be attained by mutual accommodations between parent and child.

CONCLUSION

Before concluding this section, I would like to add that understanding the theories of child development in the past is of great value in understanding the tradition of Japanese child-rearing culture (Kojima, in press b). For me, traces of the past theories seem to remain and function in present theories.

The analysis of the historical materials reported in this section was done long before I began to analyze the Western influence on Japanese education. Now I believe that there are some traditional attitudes, beliefs, and values related to child-rearing and education which made adoption and assimilation of Western theories and methods after the Meiji period easier. For example, though Japanese teaching methods before and after the Meiji Restoration have been called authoritarian (e.g., Kobayashi, 1964), I have found evidence which strongly suggests the existence of a nurturant attitude towards children and the prevalence of child-centered activity in family life during the Edo period. This may not be unrelated to the acceptance of Dewey's influence in the Taisho period (1912-1926). Likewise, we can find that theories of child-rearing and education in the Edo period and Bandura's cognitive social learning theory have many concepts in common.

Though the criticism can be made that it is not difficult to find ideas similar to the Western ideas in the wide variety of Japanese theories of the Edo period, and though it is extremely difficult to prove the continuity of thought over time, I will try, where appropriate, to hypothetically relate traditional, naive child development theory in the Edo period to the Western theory to be

discussed in the sections which follow.

PART II WESTERN PHILOSOPHY AND THEORIES OF PSYCHOLOGY AND EDUCATION IN THEIR RELATION TO CONTEMPORARY EDUCATIONAL THEORY AND PRACTICE IN JAPAN

INTRODUCTION

In this section I will briefly review the relevant literature on the influence of various philosophical positions and theories of psychology, learning, and human development on educational theory and practice in Japan. Though the main emphasis is on contemporary educational theory and practice, some historical sources will also be dealt with. This is unavoidable in my opinion, because historical perspective is indispensable to the understanding of the contemporary scene.

Relevant literature concerning the following topics will be reviewed in the order indicated below:

A. John Dewey's pragmatism and theory of experience, and related theories;

B. Piaget's theory of cognitive development;

C. Jerome Bruner's cognitive psychology;

D. Skinner's instrumentalism and other stimulus-response theories;

E. Bandura's cognitive social learning theory;

F. European and Soviet pedagogy and psychology.

A. JOHN DEWEY'S PRAGMATISM AND THEORY OF EXPERIENCE, AND RELATED THEORIES

A1. Theoretical influence

An extensive review of the literature related to John Dewey in Japanese educational thought has been made by Kobayashi (1964). This is a dissertation submitted to University of Michigan which focused mainly on educational thought rather than practice. It deals with the period before, during, and after World War II. It reviews the history of the introduction of Dewey's theories in pre-war Japan (Chapters 2, 'the early Dewey scholars'; 3, 'progressive education

comes to Japan", and 4, "the decade of the child"). After describing the educational and philosophical situation during the occupation period (Chapter 5, "General MacArther's disciples of Dewey"), it moves to the period after the occupation (Chapter 1, "Japan's Dewey boom" and 6, "Dewey and current educational philosophy"). It has a long bibliography, a total 35-page listing of various kinds of works related to Dewey. The oldest publication on Dewey in Japan is believed to be an article in 1888 which introduced psychological writing by Dewey (Mori, 1961).

At least two Japanese scholars had compiled Japanese Dewey bibliographies before Kobayashi (1964) did his own. I will not repeat these three literature reviews, but will focus instead on Japanese publications after 1965 and on recent educational practice which is indirectly related to Dewey's theory.

Concerning research trends in Japan in the 1960s, several review articles may be cited. Mori (1965) and Chiba (1966a, 1967) reviewed the trends of studies of Dewey's educational theories in Japan. Chiba (1966b) also compiled a list of Japanese publications related to Dewey in the period from 1959 to 1966. Though the "Dewey boom" in educational practice had receded, Dewey and related problems remained major themes of study in academic world. For example, 22 different translations (complete or in part) of Dewey's articles, 21 books, seven translated articles related to Dewey, 161 research articles on Dewey, and 123 other publications are included in a 21-page bibligraphic survey by Chiba (1966b).

Chiba wrote, "Although we have received a great influence from Dewey's educational ideas for about 80 years, we still do not find it settled in the intellectual climate of Japan. After all, it can be said that his thoughts have been imported not as a whole, but as fragments, floating in on the waves of the

times in Japan." Still, Chiba was basically positive in the usefulness of Dewey's theory for the education in Japan. For that purpose, he suggested that there was a need for an intrinsic reexamination of Dewey's theories. In 1969. The John Dewey Society of Japan published a book on studies on Dewey.

The "Dewey boom" in the academic field was over years ago. Still, as of 1985, 10 translations of Dewey's books are still available in Japan, including two versions of "Democracy and Education." Almost all of these translations appeared in the 1970s. One exception is one version of "Democracy and Education" which appeared as late as in 1983. Though only at the rate of a few per year, academic books on Dewey by Japanese scholars continue to be published in the 1980s. The themes of these books are, for example, Dewey's theories on educational values (Saitoh, 1980), the nature of active tasks in Dewey's theories (Sugiura, 1981), teaching materials in Dewey (Sugiura, 1982), Dewey's naturalism and educational thought (Sugiura, 1983), learning as an inquiry in Dewey (Sugiura, 1984), Dewey's theories of human beings (Taniguchi, 1982), and Dewey and his age (Taura, 1984).

Sugiura is active also in publishing articles on the reevaluation of Dewey. For example, he continues to write on Dewey's concepts of instruction method (Sugiura, 1973), the significance of discovery in his theories of inquiry (Sugiura, 1974), his theories of curriculum (Sugiura, 1978), and on Dewey and Bruner (Sugiura, 1979). Sugiura (1979) attributed the decline of Bruner's influence on education and the failure of the curriculum reform movement in the United States in the late 1960s to their failure to answer the questions which Dewey and the progressives had been trying to answer. According to Sugiura (1979) these questions are concerned with the goals of education (i.e., education for what individual and society) and the methods needed to attain these goals

(i.e., teaching materials, teaching method, and school organization).

A2. Influence on educational practice

What is the current status of Dewey's influence on educational practice in Japan? Nowadays, it is very hard to detect any direct, clear influence of Dewey in educational practice in Japan. Though one professor of education I interviewed (Yutaka Hibi, personal communication, September, 1985) acknowledged the influence of Dewey's thought in his consultations with school teachers, he is also influenced by theories such as Bruner's. Therefore, he seems to have assimilated Dewey's thoughts, especially his ideas of the importance of experience in learning, with other thoughts, dealing with the actual problems encountered by school teachers according to his own "theory."

If we consider curricula which emphasize the role of experience in learning as an indirect influence of Dewey's theories, these are still popular in Japan, especially at the elementary school level. For example, Horikawa elementary school, one of the two leading schools in Toyama Prefecture, has continued to adopt the experience-based curriculum.

I have visited the "Dalton School" for preschool children in Nagoya. The children enrolled in this school come from rather wealthy, education-minded families. Many parents who send their children to this school seem to hope that their children can take advantage of the early intellectual training provided there to be successful in the academic competition which the children must encounter soon. One of the main programs of the school is to organize children's experience so that acquisition of each of the intelligence factors as defined by Guilford's (1967) structure of intellect can be facilitated. This school propounds an elementalistic view of children's ability, fostered in a classroom and isolated from the actual contexts of children's lives. Therefore, in my

view, it should not be related to Dewey's theories of experience.

One elementary school whose educational practice is, though in an indirect way, related to Dewey's position, is an open school in Aichi Prefecture. The school was mentioned to me as indirectly related to Dewey by a professor of Education (Takeo Taura, personal communication, July, 1985) who has been actively studying Dewey and Bruner's thoughts for many years (Taura, 1968a, 1968b, 1984). Though no mention is made of the name of Dewey in the school's publication (Aichiken Higashura-choritu Ogawa Shogakko, 1983), and though his influence is indirect and is mixed with other positions, the basic character of the school seems to be related to Dewey's thought. The elementary school aims at constructing "a flexible school" through the collaboration of pupils, teachers, and parents (including community members). Based on the realization of individual differences in aptitude and ability, the school has developed a "core-curriculum like" program for younger children, a self-study system based on a "weekly program" for each of the older children, and an "open-time" system, when each child pursues a theme which interests him/her with the guidance of teachers and community members. The school is open not only within itself, but also to the community.

In a sense, it is rather atypical of elementary schools in present-day Japan, and it has attracted the attention of parents, educators, and professors of education from different parts of the country. One basic difference between this elementary school and the "new schools" in the Taisho period (1912-1926) and "try-out schools" (Shitahodo, 1957) under the occupation by the allied powers is that the former stresses the importance of basic academic skills and tries to secure these through individualized teaching and learning. This stress seems to have been an important factor in obtaining the agreement and collaboration of

parents.

B. PIAGET'S THEORY OF COGNITIVE DEVELOPMENT

B1. Theoretical influence

According to Hatano (1965a), who introduced Piaget's ideas to Japan, it was he that first encountered one of Piaget's books as early as 1927 (the book had been published in 1926) in a small bookstore in Tokyo. Hatano, who was a senior (3rd year) psychology student at the University of Tokyo at the time, was fascinated by the book (Child's representation of world), and spent a whole summer vacation reading it. Encouraged by one of his teachers, Hatano proceeded to read other publications by Piaget, and published a summary of an article in *The Japanese Journal of Psychology*. Four years later, he published a book containing summaries of Piaget's books. He tried to keep up with Piaget's publications. Hatano was surprised by Piaget's work on children's judgment of morality which appeared in 1938, but he was forced to give up his idea of propagating Piaget's new work to Japanese educators because the basic tone of the book was democracy, which had already become a taboo word in Japan. Meanwhile, some Japanese psychologists began to be interested in the Piaget's works, and some of them tried to replicate Piaget's experiments with Japanese children. One philosophy professor of the University of Tokyo was said to have chosen Piaget's book on moral judgment for his class (Hatano, 1965a). In spite of the rupture in the information flow caused by World War II, Japanese understanding of Piaget's work in the mid-40s was more advanced than that found in the United States.

However, in the late 40s, according to Hatano (1965a), it became very difficult to obtain new French books in Japan, and Japanese psychologists were foced to be satisfied with second-hand information on French psychology through the English books and articles available to them. Piaget's book on the

psychology of intelligence (1947), translated by the American psychologist Berlyne, seemed to have vastly interested American psychologists in the field of child development. American interest in Piaget, which rose in the 1960s, stimulated Japanese psychologists, and they began to embark on the study of Piaget's theories and to attempt empirical verification with Japanese children. Under the predominant influence of American psychology after World War II, many Japanese psychologists were more influenced by American studies on Piaget than by direct reading of Piaget. A series of books on Piaget which appeared in the form of a triplet (Hatano, 1965a, 1965b, 1965c) are typical of the level of Japanese understanding and research related to Piaget at that time. Though some contributors to these books referred to Piaget's original books and articles in French and one contributor referred to Russian sources, many of them, especially developmental psychologists from the younger generation, relied on English translations of Piaget and on empirical research studies related to Piaget which appeared in American and European psychological journals.

The latest series on Piaget is a six-volume series which appeared from 1982 to 1984. The six editors of these books, all in their thirties and forties, may represent the current state of Japanese psychological research related to Piaget. One of the volumes (Inagaki, 1982) deals with Piagetian theories and education, and is worth reviewing more thoroughly.

The volume edited by Inagaki consists of eight chapters, contributed by nine writers. These writers include five developmental psychologists, two professors of education, one mathematician, and one physicist. The general tone of the book is that though Piaget was not indifferent to the problems of education, his primary interest concerned epistemological questions. Hence, he was not so much concerned with practical proposals with regard to education, nor was he

interested in the application of his own theories to educational practices. Therefore, it is up to each educator to derive from Piaget's theory any educational schemes and programs which are applicable to the classroom. This, however, is very hard to do because (1) Piaget's theory is a kind of general theory which is not articulated enough to enable derivation of specific hypotheses, and (2) his theory is mainly concerned with the biological aspects of human cognition and not with social and historical aspects. These factors must be taken into account by each researcher and educator to make programs really applicable to his or her social and cultural contexts.

B2. Influence on educational practice

Arithmetic, mathematics, and science education. One of the most remarkable educational methods developed in post-war Japan is the arithmetic/mathematics program called *suido-hosiki* [water-supply method]. The chief characteristics of this method at the elementary level are: (1) the acquisition of number concepts through quantities (using specially designed tiles), not through counting; (2) calculation with figures is emphasized rather than mental calculation; and (3) sequencing of the calculation problems based on the principles of a) from elementary operation to compound and b) from general to specific. Toh'yama (1960, 1965), a mathematician started his method independently from Piaget's work. However, it later became apparent that the *suido-hosiki* method shared conceptions with Piaget's theories (Gimbayashi, 1982). As a matter of fact, Toh'yama was much interested in Piaget's works on children's conceptions of numbers and of quantities (originally published in 1941 by Piaget & Szeminska, and by Piaget & Inhelder, respectively) and arranged for them to be translated into Japanese in 1962 and 1965. Later developments of the *suido-hoshiki* method were influenced by Piaget's theories.

Because the position taken by Toh'yama's group (Toh'yama, 1960, 1965: Toh yama & Gimbayashi, 1960, 1971) was critical of the course of study published by the Ministry of Education, Science, and Culture, the latter took an indifferent posture to the method developed by Toh'yama and others. The official position of the Ministry of Education, Science, and Culture toward Piaget was also indifferent when it started the modernization of math education around 1966 (Gimbayashi, 1982), influenced by the curriculum reform movement in the United States. According to Gimbayashi's perceptions (1982), the failure of the modernization of math education had become clear around the middle of 1970, and it was as late as 1977, when the Ministry of Education, Science, and Culture revised the course of study, that it adopted some Piagetian concepts and referred to the publications by Piaget. Gimbayashi (1982) attributed this change of the official position to American interests in the application of Piaget's theories to math education in the 1970s. Gimbayashi (1975a, 1975b) continued to publish books to propagate the method originally developed by Toh'yama.

In the field of science education after World War II, the idea of *kasetsu-jikken jugyo* [hypothesis-experiment teaching] developed by Itakura et al. (1967) is one of the most stimulating methods devised in Japan. It stresses the active participation by each child in the process of attaining scientific concepts, and it also emphasizes the importance of interaction between the different views held by pupils. Typically it consists of four phases: (1) presentation of a problem by the teacher, (2) prediction of the result or the generation of a hypothesis by each pupil, (3) group discussion, and 4 verification by experiment. In phases (1) through (3), the primary role played by the teacher is to make up the setting so that individual pupils can fully activate their own cognitive structure and become ready to explain the reasons

for their predictions of the results (Furui, 1982). Thus, after children understand the question, they individually choose or write down their predictions of the result of the experiment. The teacher gives a distribution of the prediction made by the pupils, and conducts, but does not intervene in, the discussions among them. Before proceeding to phase 4, pupils can change their predictions. At this point pupils have become motivated enough to get information from their experiment which will support or not support their predictions. The result of the experiment is evident. Regardless of whether their predictions are fulfilled or not, it is expected that pupils' cognitive structure may change. Though this method of teaching may not be an intentional application of Piaget's theories, it shares common features with Piagetian theories which emphasize the importance of pupil's activity (Furui, 1982).

Preschool education. Though it is still in the beginning stage, one of the most promising fields for application of Piagetian theory to Japan is preschool education. Concerning the application of Piagetian theory to preschool education, five kinds of programs have been developed (Hooper & DeFrain, 1980). These include the programs by (1) Lavatelli, (2) Weikart et al., (3) the research group at the University of Wisconsin, (4) Furth and Wachs, and (5) Kamii & DeVries, listed in ascending order of orthodoxity in their interpretation of the developmental theories of Piaget. Out of these, three (i.e., 1, 2, and 5) are said still to be used in the United States.

Until recently, the only program introduced to Japan was that of Lavatelli. From the theoretical view point, Lavatelli's method is an unorthodox or liberal one, emphasizing the active initiative taken by the teacher. Yokochi (1964) and Matui (1981a, 1981 b, 1981c) have published books on the practical application of Piaget's theory at the preschool level. A five-volume series of books titled

"Piagetian preschool education series" was also published by Matui. Matui's three-volume work which appeared in 1981 is titled, for example, "Integrated play to facilitate intellectual development of three-year-olds." It is apparent that though these programs involve play by the children, they are focused on narrowly defined intellectual development. Through initiatives by their teachers, children are induced to participate in finely selected activities, using picture cards and other teaching materials provided by teachers. These proponents of a Lavatelli-type curriculum contributed to Piaget's visit to Japan in 1970. Due to this association of the name of Piaget with a Lavatelli-type teacher-dominant curriculum, many Japanese educators at the preschool level (kindergarten and day care centers) became cautious about Piaget (Inagaki, 1982). Japanese preschool education has traditionally been child-centered, emphasizing the children's initiative and spontaneous activities.

This situation began to change gradually, however, around 1980. Inagaki (1979) published an article to introduce Kamii's theory and methods of preschool education. In 1980, Inagaki published a translation of a book by Kamii & DeVries (1977), which attracted the attention of a small number of active principals and teachers. Now, two more books by Kamii & DeVries on number (translation, 1982) and group play (translation, 1984) are available. These publications and Kamii's visits to Japan were effective in making preschool teachers realize that their former understanding of the implication of Piaget's theory to education were limited. Because the theory and methods proposed by Kamii & DeVries are not incompatible with traditional Japanese conceptions of preschool education, teachers have become more open to the Piagetians.

Is it simply because of its seeming compatibility with traditional conceptions that Kamii's theory has interested groups of kindergarten and day

care center teachers? I do not think so. Katoh, whose practice in his day care center at Fukuyama city is highly praised by Kamii herself, believes that the book by Kamii and DeVriese (1977) is "the bible of preschool education." Piagetian theory, if properly applied, may serve (1) to provide a theoretical foundation for the preschool curriculum based on children's spontaneous activities, (2) to provide a new perspective from which to reevaluate traditional practices, and (3) to suggest ways to devise new activities (Inagaki, 1982). I have reviewed the unpublished programs at Katoh's day care center and believe that Kamii's theory works there.

C. JEROME BRUNER'S COGNITIVE THEORY

C1. Theoretical influence

The latest edition of an annual publication which lists all available books in print (*Nippon shuppan nenkan 1985*) has 12 entries for translations of Jerome Brunner. The entries for selected contemporary writers are as follows: J. Piaget, 37; C. R. Rogers, 22; A. R. Luria, 9; B. F. Skinner, 4; A. N. Leont'ev 4; A. Bandura, 3; C. Kamii, 3. For historical figures, the entry is: J. J. Rousseau 32; M. Montessori 13; A. S. Makarenko 13; A. S. Neill, 12; J. Dewey, 11; F. W. A. Froebel 11; H. Wallon, 9; J. H. Pestalozzi 6. These figures show that Bruner is second to Piaget in the number of available translations among contemporary writers on child development and education. Though the translation of "The process of education" (originally published in 1960) appeared in 1963, as was the case with Piaget, the peak publication years for translation of Bruner's books came in the first half of the 1970s. This was also the peak period for the appearence of major books on Bruner by Japanese scholars (e.g., Mizukoshi, 1975; Mizukoshi & Kanazawa Daigaku Kyoiku-gakubu Fuzoku Shogakko, 1972; Nihon Kyoiku-hoho Gakkai, 1975; Satoh, 1972).

Bruner had been known to Japanese experimental psychologists through his work on dynamic perception, and thinking and concept attainment research before he appeared on a more public scene through his works on educational processes, culture and cognitive growth, and infant development.

Bruner's experimental work on thinking provided a new perspective for psychological research. This was a period when the main publications of Piaget and Vygotsky were being translated into English, and the traditional stimulus-response psychology of the United States was beginning to change. In 1960 Gestalt psychologist Wolfgang Koehler was elected president of the American

Psychological Association. Though it is difficult to trace a direct line of influence, Japanese psychology, much influenced by German Gestalt psychology in the 1930s and 40s, seems to have maintained a positive attitude to the concept of cognitive structure. Now, in retrospect, this attitude may have served as a setting which made the adoption of Bruner's theory and other American research on cognition and thinking easier. American psychology continues to proceed in this direction of development, and its influence on Japanese psychology in the field of cognition and its development is still strong.

Though there was a lag of several years, Bruner's interest and initiative in the scientific approach to education in the 1960s, especially his emphasis on structure of subject, enormously influenced the reconstruction of education in Japan. Especially during the period between the second half of the 1960s and the first half of the 1970s, Bruner was "what comes after John Dewey" in Japan. As a matter of fact, the 1960s became a period of rapid economic growth for Japan, and industrial competition with foreign countries and within the nation itself intensified at this time. At the same time, entrance examinations for high schools and colleges became highly competitive, and parents began to regard child-rearing and education as the means to make a successful child.

C2. Influence on educational practice

Because Bruner was rather optimistic about the future of the scientific approach to instruction, Japanese scholars and educators tried to introduce the method of discovery learning to Japanese elementary and junior high schools. One of the early proponents of discovery learning in Japan was Hirooka (1968, 1974). First, around 1955, this started as "problem-solving learning" (Hirooka, 1955), and Hirooka and his collaborators, as well as other researchers, engaged in the comparative study of problem-solving and systematic learning methods. David

Ausubel's (1963) concept of meaningful reception learning was known to educational psychologists, but it did not go beyond laboratory experiments. It was only recently that Ausubel's concept began to be reevaluated in its relation to the schema theory in cognitive psychology, but this still remains at the level of laboratory experiment (Ohmura, 1982).

Not only did he theoretically analyze discovery learning and its educational implications, Hirooka actively worked as a consultant for schools and coauthored numerous reports with the staff of these schools (e.g., Hirooka et al., 1970,. One of his collaborators, Mizukoshi, also coauthored a book on the effectiveness of discovery learning (Fujii, Mizukoshi et al, 1968). According to Mizukoshi (1975), this was the second stage in the history of discovery learning in Japan: researchers were concerned with the influence of subject and teaching materials on the learning process and outcome. The third stage of discovery learning in Japan began around 1970 (Mizukoshi, 1975). This was the period when the concept of the optimization of teaching methods became apparent, and discovery learning tried to combine itself with the newly evolving technology of education. Discovery and control were taken as complementary methods, within the general trend of diversification of teaching methods (Hirooka, 1972).

Bruner himself realized the problem of relevance of education (Bruner, 1971). His interest was directed to the role of culture and language in cognitive development, and then to infant development and mother-child interaction, and finally to disadvantaged and minority children. Though many of Bruner's later works were translated into Japanese and his empirical data and related theories continue to attract the attention of developmental psychologists, his direct influence on school education seems to have declined from what it was in the 1960s, when his optimistic tone was highly compatible

with the contemporary *Zeitgeist*. Another development, in the 1970s, though in a different direction from Bruner's discovery learning, was computer managed instruction and computer aided instruction in Japan. This shift to more structured teaching and learning methods is another form of the optimism to be found in Japanese education at that time.

On the other hand, though no direct mention has been made of the name of Bruner, we can see emerging signs of the movement of current Japanese education toward less structured and less controlled learning. Interest in open schools in Europe and the United States, in Neill, and in the Rudolf Steiner school in Germany (Koyasu, 1983), and a recent revival of integration of subjects are examples where pupils' active participation in the learning process is heavily emphasized. In this context, it is possible that Bruner's discovery learning, together with progressive education, will be reevaluated in the near future. As a matter of fact, Taura (1985) defined Bruner's book on the relevance of education which appeared in 1971 as Bruner's turning point from scientific method of education to "humanizing schools."

D. SKINNER'S INSTRUMENTALISM AND OTHER STIMULUS-RESPONSE THEORIES

D1. Theoretical influence

Until the early 1950s, learning theory in psychology dealt mainly with very simple habit formation. Psychologists had regarded as a focus of their research the descriptive functional relations between stimulus input and response outcome. They had treated organisms as black boxes, and were not concerned about what kind of cognitive process went on within an organism. Educational psychology had not gone beyond the application of traditional psychology to educational problems. The content on learning in educational psychology textbooks was not much different from the days of Thorndike in the 1910s.

Therefore, there was a large gap between the actual learning processes within the classroom and the knowledge that educational psychologists could offer. What was lacked were theories of learning applicable to the educational setting (Azuma, 1982). School teachers had to wait until the need for the development of new curriculum and the method of the instruction for intellectual skills first emerged in the late 1950s.

However, before that, another development in technology occurred for teaching. This was Skinner's instrumentalism, which was completely dependent on the descriptive study of reinforcement contingency and change on the overt behavior of organisms. It was soon introduced into Japan and attracted the attention of technologists, but at the same time its overly mechanistic position made educators wary. As was noted in the preceeding section, four books by Skinner have been translated into Japanese. Two of these express Skinner's deterministic view of human behavior, and the other two are technical books on behavioral technology. Therefore, though many programmed books have been published in Japan as educational tools, information on Skinner's basic theory is available only to psychologists.

D2. Influence on educational practice

In addition to the basic incompatibility of Skinner's views of human beings with traditional Japanese concepts of the nature of man, Japanese behavioral scientists also failed to develop good software for programs used for teaching machines. There was a big gap between the development of hardware (Nihon Denshi Kogyo Shinko Kyokai, 1965) and that of software. However, this does not imply a lack of popularity of Skinner's methods in Japanese education. As a technology of training of individuals with low learning ability or with low motivation for learning, Skinner's technology and related theories can provide a powerful method

to regulate or modify overt behavior.

Several schools of behavior modification or behavior analysis still continue to conduct research in clinical settings and institutions for the handicapped. Titles of books in this field include "Practices and perspectives in operant education" (Nihon Operanto Kyoiku Kenkyu-kai, 1977), "Behavior education in schools for the handicapped" (Azuma, 1979), "The latest collection of cases of behavior education" (Nihon Kodo Kyoiku Kenkyu-kai, 1983), and "Behavior modification of the mentally retarded" (Azuma, 1975). Though mainly Skinnerian in their approach, we can find other approaches to the problems of behavior control when we browse through professional journals (e.g., *the Japanese Journal of Special Education*) and annual convention programs in the field.

In addition, the token economy system to regulate classroom behavior of pupils is sometimes used, though it is not especially popular in Japan. However, in a textbook on educational psychology, Kojima (1978a) warned students and teachers to be very careful in anticipating what will happen to the classroom and school when they introduce the system, and to be prepared for the ill effects it may yield. Though Japanese schools, especially at the junior high school level, are recently suffering from discipline problems, vandalism, and aggression by pupils, many teachers still seem to feel that the concept of classroom management through instrumental conditioning is somewhat foreign to the educational setting. Though we have recently witnessed a sharp increase of the incidence of corporeal punishment by teachers to deal with the discipline problems, basically they try to cope with the problem through accommodation of interpersonal relations between teacher and pupils, and through creating a warm and collaborative atmosphere within the classroom. In a society like Japan, where the maintenance of harmonious interpersonal relations has been not only the means

but also the goal of education, and self-regulation of behavior by children has been emphasized (Kojima, in press c), it is understandable that teachers are psychologically reluctant to adopt direct, external methods to control pupils' behavior.

Another problem of behavior control is that though training research concerning complex behavior and skills needs a careful analysis of the acquisition process, which leaves room for the contribution of behavior analysis techniques. the gap between laboratory and actual contexts where the training proceeds is so big that we need an ecological perspective on learning contexts before training programs can be implemented for any educational practice.

E. BANDURA'S COGNITIVE SOCIAL LEARNING THEORY

E1. Theoretical influence

Albert Bandura was first known to a limited number of Japanese psychologists as belonging to the stimulus-response school (especially, drive-reduction theory) of social learning. His work on aggressive behavior among adolescents (Bandura & Walters, 1959), though clinical in its orientation, was theoretically based on stimulus-response theory. However, his experimental work on young children's imitation of aggressive models (Bandura, Ross, & Ross, 1961) was quite different from his previous theoretical position, emphasizing the importance of the role of modeling in human learning. Because his experimental procedures and results were very clear, and in addition, its implication for the effects of television on children seemed enormous, it soon attracted the attention of Japanese psychologists in the fields of human development, education, and learning. The results of his experiments were discussed by psychologists, introduced to students in psychology classes, and were described in psychology textbooks. Personally I remember the epoch very well because 1961 was the same year that I

finished my master's thesis on aggressive behavior and its family background in day care children.

Bandura's book on social learning and personality development (Bandura & Walters, 1963) gained broad readership among Japanese psychologists. In accordance with the movement of American psychology toward the direction of emphasis on the cognitive process, Bandura's position developed into cognitive learning theory. The fact that his theory and research stimulated Japanese research studies (largely laboratory experiments) can be seen from the amount of research cited in a review article which appeared in *American Psychologist* (Sukemune, Haruki, & Kashiwagi, 1977). The article, which covered the period from 1964 to 1975, cited 58 representative research studies on social learning in Japan. They include almost all types of conceivable research related to social learning, and the research interest was almost identical to that found in the United States. If we disregard the names of authors and of journals, these papers seem to be indistiguishable from those published in the United States. Three of Bandura's books were translated into Japanese, appearing in 1974, 1975, and 1979.

In 1982, Bundura was invited to Japan to conduct seminars in Hiroshima, Gifu, and Tokyo. He also gave a lecture at the annual convention of the Japanese Psychological Association in Kyoto. With the exception of only a few papers, almost all of the papers presented by Japanese participants at the seminars were very similar in their theoretical orientation and research methods to American research (Sukemune, Harano, Kashiwagi & Haruki, 1985). One notable exception was a paper by Kojima on traditional child-rearing concepts in Japan and Bandura's social learning theory. The other, presented by Ohnogi, was concerned with modeling attitudes in Japanese folk tales and traditional arts.

As Kojima expected, Bandura was much impressed with the similarities between Japanese traditional child-rearing concepts and his cognitive learning theory (Sukemune et al., 1985). The main difference between the two was that while Japanese traditional concepts regarded the development of competence as an emergence of inner programs under normal conditions, social learning theory stresses the process of acquisition of abilities through children's interaction with and modeling of parents and society. Kojima believes that, as was explained in Part I of this report, in Japan there existed and still exists a cultural background which has facilitated the assimilation of cognitive social learning theory by Japanese researchers.

E2. Influence on educational practice

However, in spite of this, or perhaps because of this, Bandura's theories have not stimulated any specific educational program in Japan. I asked one leading educational psychologist in the field (Seiso Sukemune, personal communication, September, 1985) whether he knew of any educational practice in a Japanese school which, in some sense, was directly related to Bandura's theory. Unfortunately, Sukemune was unable to mention any example and said that it is a weak point of the research related to this theoretical position which remains to be overcome.

F. EUROPEAN AND SOVIET PEDAGOGY AND PSYCHOLOGY

F1. European pedagogy

As can be judged from the entries in the list of the books currently available (section C1), European writers such as Piaget, Rousseau, Montessori, Neill, Froebel, Wallon, and Pestalozzi are still popular among Japanese readers. In a sense, almost all of them take up a position of child-centered education from the kindergarten to grade school level, focusing on the role of experience

in child development and education. Especially at the kindergarten level, some of these writers are still major figures in education.

Additionally, dissatisfaction with the present educational systems, particularly the firm control by the Ministry of Education, Science, and Culture and the heavy tension placed on children by the "entrance examination hell," have led a number of parents and educators to look for alternative schools. Interest has been stimulated, for example, in A. S. Neill and Rudolf Steiner school. Tetsuko Kuroyanagi's (1981, English edition 1982) *Totto-chan*, which described her experience at a liberal elementary school in Tokyo during the militaristic period, is one of the best-selling books in the history of Japan. This fact indicates people's dissatifaction with the present situation of education in Japan. In this sense, some of the educational theories and practice which originated or developed in Europe have served as models when Japanese educators and parents have tried to plan "new schools."

In his textbook on child psychology, Takizawa (1969) described the movement for new education in France after World Wars I and II, especially the Langevin-Wallon reformation plan. However, interest in the French movement has not developed beyond the academic theory of development and education. It appears difficult for the general populace to develop any concrete image of a reformation plan which goes beyond actual educational practice in school.

F2. Soviet pedagogy and psychology

What is the major influence of Soviet pedagogy and psychology on Japanese research and practice in education? Generalizations may be made in terms of three points. First, some Japanese psychologists who are working in research institutes and university departments for the retarded or handicapped children have been influenced by such Soviet psychologist as Luria. A Soviet training

model based on brain physiology has interested these researchers. For example, Kiyoshi Amano, now at the National Institute of Educational Research, has played an active role in translating books by Luria and in conducting research on language training programs for the mentally retarded. Yutaka Matsuno at Tohoku University has also translated Soviet books and based his defectology on a Soviet model of the human brain. However, as in the case of the behavior modification techniques reviewed in section D2, these laboratory based research and training programs have not developed into actual programs to be used widely in daily educational practices at schools and institutions for the handicapped.

Second, Soviet theories have served a basis for criticism of Western theory. For example, Vigotsky's criticism of Piaget have influenced Japanese educators (Komabayashi, 1978). Incidentally, Vigotsky's "Thought and language" was translated into Japanese by Shibata in 1962. Shibata also translated another book by Vigotsky, "Theory of mental development," in 1970. Komabayashi (1982 also criticized Piaget's educational theory from the view point of Soviet psychology. Though Komabayashi's argument was primarily based on Vigotsky, he also referred to Rubinstein, Leont'ev, and few other Soviet psychologists.

Likewise, when discovery learning by Bruner was popular, some educators took up the theoretical position concerning algorithm of teaching-learning. L. H. Landa's book on algorithms was translated by Kamabayashi in 1970. Anticipating the possible criticism on teaching-learning method based on algorithms, i.e., that it hampers the development of creativity in children, Komabayashi (1978 proposed a two-phase teaching-learning method of algorithms. The first phase consists of spontaneous discovery of the algorithm and its formulation by pupils under the guidance of the teacher. Though this may be called "guided discovery," Komabayashi (1978) argues that it is important to make learners construct

algorithms through discovery. The second phase consists of problem solving by learners in terms of the algorithm. In that it leaves room to accommodate the learner's spontaneous activity, the method, in my view, is similar to the traditional Japanese teaching-learning methods described in part I. Though no direct mention has been made of 'algorithms,' it seems to me that it is not uncommon in Japanese arithmetic/mathematics and science classes to organize instruction in terms of the principles described by Komabayashi (1978). At the content level, however, the Soviet method of algorithms still seems to remain at the research level.

In contrast with the two influences mentioned above, Soviet collective education was once very influential among Japanese educators. As can be seen from the entries of translated books (section C1), Makarenko has been one of the most popular authors in Japan.

The concept of guidance was introduced in post-war Japan under the influence of the United States. Roughly speaking, three positions may be distinguished (Kihara, 1978). The first is the position developed from the Guidance Movement in the United States, which has now become largely Rogerian. It emphasizes acceptance of pupils by teachers. The second came out of the progressive education movement and stresses the importance of problem-solving activity by pupils. The third is based on Soviet collective education. In this position, N. K. Krupskaya and Makarenko have been the ideological leaders.

This position, as well as the first two, has forerunners in pre-war Japan. In particular, the ideas termed *shinko kyoiku* [new wave education] and *tsuzurikata kyoiku* [composition education], which were regarded as 'socialist' and destroyed by the militaristic government, are probably the chief forerunners of collective education in Japan (Sugiyama, 1978). During the period after World

War II, when the *Zeitgeist* to abolish the militalistic, ultra-nationalistic, and feudalistic social structure was enthusiastically accepted, collective education was popular among some Japanese teachers. Deeply influenced by Makarenko's theory, these teachers organized an association called *Zenseiken* in 1959 They proposed practical methods to organize individuals' needs into purposive group activities under the initiative of teachers (Ogawa, 1967). Teachers were expected to take an active part in organizing, and often manipulating, the classroom. A book edited by Zenseiken (1971) descibed how to organize classrooms for the purpose of collective education. A theoretical position of collective education was published by Sugiyama (1976). Later, partly because of rapid economic growth, a general trend toward conservatism, and the heavy pressures of the "entrance examination hell," collective education lost much of its popularity among Japanese teachers. Sugiyama (1978) believed that there was a need to rethink the purpose of the methods used in collective education movement.

According to a recent report, however, *Zenseiken* is still one of the most active groups among more than 600 voluntary teachers' study groups and associations in Japan. Apart form the official training programs by the Ministry of Education, Science, and Culture and by local school boards, study groups of teachers organized voluntarily have been active in the history of Japanese education since the pre-war period. As of 1985, the *Zenseiken* group have about 5,000 members throughout the country with many branches. The majority of the members are elementary and junior high school teachers. In addition to its members, the group has many subscribers to its monthly journal, *Seikatsu shido* [Guidance of children's life], whose circulation now totals about 15,000 copies. Several years ago, when aggression toward teachers and vandalism in junior high schools began to prevail, the membership of *Zenseiken* doubled. It was because

the young teachers were not prepared to deal with aggressive behavior of children. Older teachers in their 40s and 50s also joined the group because they felt that they could not keep up with rapidly changing school children.

In this process, *Zensciken* itself gradually changed. They were faced with the reality that some of their former methods of collective education had negative effects on the classroom. For example, they used to stimulate children by having small groups compete against each other. Teachers especially would call the least effective group by such derogatory terms as "junk group" or "booby group." The practice was meant to c the group to improve their performance. However, in the context of the recent prevalence of physically and psychologically abusive acts among children, the degrading terms were found to trigger aggression directed to the group members. The *Zensciken* group has also advised teachers to soften the competition among groups and to foster cooperation and mutual help among them. One of the reasons the *Zensciken* attracts the attention of teachers is that, in addition to their theoretical position, they use such practical training methods as role playing and group discussions, and the veteran teachers can give concrete answers to the questions of young teachers. Generally speaking, official in-service teacher training programs are more formalistic, and often fail to stimulate the interest on the part of the teachers.

CONCLUSION

Three points may be enumerated as tentative conclusions based on this selective literature review. First, Japanese educators, school administrators, and the gereral public seem to be especially interested in introducing new techniques of education. For example, in pre-war period Japan, their interest in Dewey was primarily focused on a new method of education, and Dewey's

all-important concepts of social reconstruction, which is inseparable from his methods, were mostly neglected. One exception to this was collective education after World War II. For a while, the teachers' union tried to implement social reconstruction in Japan through collective education in the classroom. Because the movement seemed to be effective, the conservatives began to worry about its outcome, and they began to move Japanese education in the direction of a "reverse course."

Second, theories of psychology and education which require individualized and differential treatment of each child, such as those of Skinner, Bandura, Piaget, and some Soviet psychologists, have remained mainly at the laboratory research level. One basic reason that educational methods based on these theories have not been implemented in classrooms was, in my view, in Japanese concepts of school education. Formal school education in groups where pupils receive equal treatment seems to be a basic Japanese concept, and derivation from it inevitably encounters emotional reactions from parents: "It's discrimination!"

Finally, entrance examination competition in Japan has had the effect of preventing the dissemination of new educational philosophies which emphasize the freedom of children and teachers. Though such ideas may attract the attention of educators and parents as antitheses to the prevailing system, it is very hard for them to be widely accepted in the face of the hard reality of the selection system used by schools and society.

III CONTEMPORARY JAPANESE VIEWS OF LEARNING AND DEVELOPMENT, AND METHODS OF EDUCATION

A. JAPANESE VIEW OF THE DEVELOPMENTAL PROCESS AND LEARNING

A1. Social and cultural background of learning and problem solving

It was more than a decade ago that I was engaged in research on cognitive styles in Japanese children (Kojima, 1976, 1978b). We quickly discovered that Japanese five and six year olds, compared to their American counterparts, were cognitively much more reflective--that is, they took enough time to ensure accurate perceptual processing--than they were impulsive. Other results I obtained also suggested that our five to six year old children tended to be field-independent--that is, they took analytical approaches to perceptual tasks--rather than field-dependent, or global. I also administered the Wechsler Preschool and Primary Scale of Intelligence (WPPSI) to these children and found that one sub-test, the Block Design, was too easy for the Japanese children to be able to make discrimination power among them.

I then compared the age functions of raw scores of the Wechsler Intelligence Scale for Children (WISC) and the WPPSI standardized data from the Japanese and American populations and found large differences between them on each of the performance sub-scales of the WPPSI. The WISC was standardized earlier in the year than was the WPPSI, and its performance scales difference between Japanese and American children seemed to be the function of the birth cohorts of the standardized sample. That is, although children from both countries increased their raw scores as a function of age, it was only in younger children that the Japanese children surpassed the American children. I attributed the relatively low performance of the older Japanese children to the disruption of their lives at school and home during and after World War II.

These results led me to generalize in the conclusion to a previous article (Salkind, Kojima, & Zelniker, 1978) that, "It is possible then, that differences found in the present research (i.e., cognitive reflectivity-impulsivity, are components of a difference in a wider domain, that is, young children's performance of adult imposed tasks which require sustained effort in the nonverbal domain."

INSERT FIGURES 3-1 TO 3-4 AROUND HERE

In 1978, the standardized data for the Japanese version of the Wechsler Intelligence Scale for Children Revised (WISC-R) appeared (Kodama, Shinagawa & Motegi, 1978). I compared this data with that for the American population (Wechsler, 1974) and found the same kind of difference between the two countries as was found for the WPPSI. Figures 3-1 to 3-4 show the age functions of eight of the total twelve WISC-R sub-scales for Japanese and American test norms. Test items and procedures for these sub-tests are essentially the same in the Japanese and American versions, with the exception of the time limit for a sub-test (coding) and the fact that arithmetic items have been arranged and replaced so as to make them more difficult for Japanese children. In these two verbal sub-tests, the age functions for the two countries do not seem to be much different. However, the fact that the arithmetic items for Japanese children have been made more difficult than for American children means a better performance by the Japanese children. The mean scores for digit span, which is said to be related to the child's attention span and concentration, are only slightly different between Japan and the United States after the age of 14. which does not necessarily endorse the stereotype of the Japanese child who has a

particularly high concentration capability.

Let me turn next to performance, or the non-verbal tests. For picture completion, where children are required to discover the essential missing portion of a picture, the age functions for the two countries are not different from those of the two verbal sub-tests mentioned above. The maximum exposure time for each item to children is 20 seconds, and though the test require the children's perceptual analysis of pictures, persistent effort is not required to be successful in the sub-test. With regard to other five performance sub-tests, though some of the results are obscured by the ceiling effect of the scales, Japanese children outperform American children. Note that the time limit of the sub-test coding is set shorter in the Japanese version: 90 seconds for Japanese children and 120 for American children. Even so, the performance of the Japanese children is not so greatly different from that of the American children. Unlike picture completion, another performance sub-test, all of these five performance sub-tests require sustained effort on the part of children for success.

The largest difference in the scale scores between Japan and the United States is in the block design sub-test. In this sub-test, children are asked to construct blocks to make a designated model. In addition to perceptual analysis, children must be able to overcome the frustration caused by failure, and maintain the motivation to succeed in this sub-test. The performance of the average seven-year-old Japanese child is equivalent to that of the average ten-year-old American child. Likewise, Japanese ten-year olds do as well as American children at the age of 14 and one half. In the coding sub-test, where the children's task is to perform the proper matches between geometric shapes and marks, or between numbers and marks, Japanese children clearly outperform American children. This is rather a laborious task, but Japanese children seem to quickly discover the

matching, and to respond fast and persistently.

These results are again consistent with my former generalization that Japanese children are good at adult-imposed tasks which require sustained effort in the nonverbal domain.

The superior performance of Japanese children over American children between the ages of four and nine and one half has also been reported by Misawa, Motegi, Fujita, & Hattori (1984), using the standardized data of the Columbia Mental Maturity Scale (CMMS). The CMMS is a nonverbal reasoning test consisting of pictorial and geometric items. Though the standardization year for the United States version of this test was ten years earlier than that for the Japanese version, the Japan-US difference in children's performance cannot simply be attributed to that factor. The differences between Japanese and American children became less conspicuous around the age of seven. Misawa et al. (1984 attributed it to the start of compulsory education in both countries.

I have since heard from a few of my colleagues in the field of experimental psychology that Japanese college students seem to be faster and more efficient in their responses to Sternberg's memory scan tasks than their American counterparts. According to them, the Japanese students' response time is shorter, and the gradient of the regression line of response time on the number of the items to be scanned in memory is not so steep as in American students.

I am not interested in the issue of whether the IQ of Japanese children at least in the nonverbal domain is higher than that of American children (Lynn, 1982). I do think, however, that Japan-US differences in age functions in several cognitive tasks which have been obtained cross-sectionally thus far both in standardized and in non-standardized tasks, cannot simply be attributed to sampling problems or differences in procedures.

There are many plausible explanations for the accelerated development in some aspects of cognitive performance in Japanese preschool age children as compared to the preschool children in America. There may be a biological difference in cognitive ability or temperament which has been maintained or enhanced through some unknown process of cultural selection. Also, educational influences at home and school may certainly be factors in these differences.

The interpretation I favor, however, is made in terms of pervasive cultural factors in relation to task-related attitudes and motivation. In some testing or experimental situations, where adults administer the instructions and where sustained effort is required to solve difficult or laborious tasks, Japanese children perform persistently and faithfully to the instructions. Additionally, they seem to be concerned about the quality of their performance, e.g., accuracy and speed. I believe that these are characteristics which are more often found, on the average, in Japanese children than in American children and that they are useful in erxplaining at best some of the variances found in cross-national studies.

If my supposition is right, a new question arises: what is the background of the development of task-related attitudes in Japan? Though doubtless many factors are involved here, I would like to call attention to one aspect, that of cultural and historical background. Here two questions may be addressed. First, is the specific task-related attitude a recent phenomenon in Japan? And second, if not, how far back can it be found and how did it develop? I have no definitive answers, but I would like to propose the following: this task-related attitude has deep roots in the history of Japan. Recent changes in environmental factors in Japan may also be operating at a more specific level.

Tradition of the Edo period. With regard to general background, I believe

this may be dated back to Edo-period Japan (1600-1867). This conclusion is strongly suggested by my analysis of documents from that period. As was explained in Part I of this report, most of the Japanese writers I surveyed emphasized that with the exception of a few unusual cases, most children were similar to one another in their innate moral character and intellectual abilities, and that individual differences among children could mainly be attributed to environmental factors. However, the Japanese emphasis on environmental factors to explain differences among children does not mean that they conceived children as being passive in relation to experiences. On the contrary, children were viewed as autonomously learning organisms. The Edo period experts theorized that the child learns things, especially through imitation, from the earliest period of life, and that educational intervention was necessary to keep the autonomously developing child on the right course to function in adult society. This view of the child as an autonomously developing being--an organism who was thought to be out of the *direct* control by outside influences (including parents and teachers)--was also implemented in the education of children over six or seven years of age. Instead of attempting to control the learner's behavior externally, it was attempted to make the learner understand the whole procedure, and children were expected to regulate their own behavior by themselves toward goals which were set by the adults.

One of the basic values to which many of the specific goals were related was as follows: to know one's role, to accept one's place in society, and to work hard to faithfully perform one's assigned task. This was not restricted to the warrior class but was also stressed in other classes, i.e., peasants and townsmen.

With regard to the training of children, the beneficial effect of exposing

sensitive infants gradually to external stimulation was clearly recognized. When children became older, to expose them to mild deprivation and hardships was thought to express parents' true consideration for them, because it would enable children to endure hardships when they come to perform adult roles. As indicated earlier, enabling a child to work hard to perform his/her assigned role faithfully was one of the basic goals of childrearing in Japan at that time. In this sense, it was felt that anticipatory socialization needed to begin very early in one's life.

Judging from several sources of evidence (Kojima, in press a), it can be said that up to the age of around seven, adults were permissive, or even indulgent to children. However, excessive praise of older children was not recommended because the writers were afraid that this might make children arrogant. They maintained that children should be admonished in a firm but calm manner. Thus it can be said that child-training programs advocated at that time mainly consisted of gradually exposing children to stimulation, and then to mild deprivation and hardships, and also to impart adult's expectations concerning children's performances. If this was successful, the result would presumably be children who made a persistent effort at problem solving in adult-imposed tasks and who were concerned about the quality of their own performances.

After the Meiji Restoration. After the Meiji Restoration in 1868, the need for formal education for both men and women was fully recognized. Japanese official visitors sent to the Western countries were keen enough to conceive of childrearing and education as an important basis for the future development of the nation. That type of education was seen as important for the enrichment and strengthening of the nation, and was promoted by the government during several decades to follow. The goals of childrearing and education in the Edo period

mentioned earlier, that is, to knows one's role, to accept one's place in society, and to work hard to faithfully perform one's assigned task, were not incompatible with the Japanese government's objectives for education. Therefore, the basic concepts of childrearing and education in the Edo period seemed to have been retained in the several decades to follow. Additionally, the idea of competition among people was introduced by the government to motivate people for schooling, learning, and work. People were led to believe that hard work in school and in society was the best means for success. At the national level, Japan felt that it had to catch up with the West to compete. Many Japanese came to to believe that hard work would yield positive results not only for themselves but also for the nation. However, the hierarchical social structure which continued to exist for several decades in Japan, and the damage caused by continuous wars prevented competition among people for better achievement in educational settings from becoming prevalent until about 30 years ago.

Recent changes. At this point I would like to explain some of the recent changes in Japanese society. Rapid economic growth began in post-war Japan in the late 1950s. Several years later, competition for entrance examinations at the high school and the college levels began to intensify, and school achievement became the overwhelmingly dominant way of evaluating children. Parents began to view childrearing and child development as a kind of competition between each other to create the most successful child, or at least, the above-average child (Kojima, in press a). Thus Japanese parents began to improve their home environments by buying educational materials and equipment, sending children to *juku* (coaching schools), and hiring private tutors for their children. This development clearly contains a variety of traditional views of child development, that is, a combination of the environmentalistic view of child development with

the view of the child as a being difficult to control directly from the outside. In addition to these changes at the home, the quality of school education as a whole was improved by extra money and energy spent for it.

The competition began not at the elementary school level but as early as infancy. It was around the middle of the 1960s that popular infant-care books changed their contents from routine and medical care to include the intellectual and personality development of infants. It was also about this time that *ikuji Neurose* [child-rearing neurosis] among young mothers began to attract attention in Japan (Kojima, in press a).

Under these circumstances, a few things seem to be important for a Japanese child to succeed in competition. First, from the early age of their lives, children should be motivated to solve rather difficult or laborious problems given to them by adults and their surrogates, e.g., TV programs, textbooks, drill materials, and teaching machines. Children who are motivated only to solve the problems they find interesting may not be successful in present-day Japan Successful children are aware that adults expect them not to give up tasks easily. This positive orientation toward adult-imposed intellectual tasks probably has been instrumental in children's achievement in various kinds of educational settings in Japan. The second important factor is the concern of the learner for his or her own performance. In the earlier phases of learning, performance quality is stressed, and the primary goal of the learner is to make only a few errors on the various tasks assigned. In the latter phase of learning or practice, the time taken to solve the problems accurately has to be taken into account. So that for a learner to became able to respond quickly without sacrificing accuracy, repetitive practice in a specific task domain is necessary. This enables the acquisition of the basic skills of the particular

task domain.

Once the specific skills needed to deal with the particular task have been acquired, the learner usually gains a sense of competence in handling the task, and will not avoid that particular task situation. Finally, after each of these skills in the various domains has reached the level of nearly automatized processing, the learner must be able to combine the necessary skills out of his/her response repertory to solve more complex problems. I hypothesize that many Japanese children, are spurred by the pressure for competition in daily life at home and school to acquire these three characteristics, thus making them good at adult-imposed, difficult or laborious tasks. These three characteristics are not incompatible with the traditional task orientation in the Japanese which I described earlier.

As a matter of fact, traditional task orientation is still formally emphasized in Japanese schools. For example, in the courses of study set by the Ministry of Education, Science, and Culture, there is emphasis on persistent effort to attain the morally correct goals. Thus for example, at the elementary school level, the following characteristics are consistently stressed: to make one's effort even though it is hard to bear (grades 1-2), to carry a task through persistently (grades 3-4), and to do a task throughly without being daunted by obstacles and failures (grades 5-6).

Surrounded as they are by a culture where persistent effort has been emphasized, Japanese children have developed characteristic ways of evaluating their own and others' performance and of coping with sanctioning by adults. Hatano and Inagaki's (1982) finding with Japanese fifth graders suggests that Japanese children, who are more reflective than their American counterparts (Salkind, Kojima, & Zelniker, 1978), are willing to invest longer time period for

problem-solving since this shows their diligence. Hatano (Personal communication, October, 1979) suggested that Japanese children tend to attribute their failure to their lack of ability rather than to their lack of motivation because this will help them avoid strong negative sanction by adults. As I have noted, it would appear that the main occasions on which Japanese adults give negative sanctions to children is when they have attributed the children's low performance level to a lack of effort. It is logical to assume that adults cannot be harsh on children if they attribute the children's low performance to a lack of ability. This would appear to be an important cultural prerequisite for Japanese children's persistence in solving problems. It is also related to the Japanese emphasis on procedure and process when doing things, as contrasted with exclusive emphasis on outcome in the United States. This will be explained further in the following section.

A2. Views of developmental process and learning

LeVine (1980) has suggested that the theories developed by educational psychology in any given culture concerning age-appropriate learning activities, appropriate methods of teaching, and the goals of education, are derived from cultural assumptions and from folk practices. Especially in Western countries, where theories of child development and educational psychology have developed without the benefit of evidence concerning child development in other cultures, Western educators and psychologists frequently elevate certain popular assumptions about child development and learning to the level of academic theory. On the other hand, in a country like Japan, where academic developmental and educational psychology has developed under the predominant influence of Western theories and methods, researchers tend to rely primarily on borrowed theoretical frameworks and methods, to the neglect of the actual processes of

child development and learning in their own country. Though Japanese psychologists and educators have begun to realize the unique characteristics of Japanese practices of education, they are not always aware of all the characteristics that are unique to them. Many of these practices and underlying beliefs are neglected simply because they are so matter-of-course.

In this context, the exchange of observations made by foreign researchers on each other's educational practices and underlying beliefs is extremely valuable. These observations should also be integrated by scholars with observations on their own country made by native psychologists and educators. Peak's (in press) observation on early education in Japan from the American point of view and some of the points that I will make on her observations and interpretations are a good case in point.

Early training of concentration. According to Peak, these facets of Japanese education which are familiar to Americans, e.g., the formal structure and content of the educational system due to its the fully modern, industrialized society that has received considerable educational influence from the West, conceal basic differences between Japan and the United States. She is especially interested in these Japanese beliefs concerning young children's learning potential, which are appropriate teaching practices, and what are the proper goals of early education that are different from those of the United States. She focuses on the instilling of basic learning skills and attitudes in novice learners, particularly in training which develops concentration in preschool children. Peak's descriptions are based on her eighteen months of field-work in Japan from 1983 to 1984. I will refer to a few of the points she has made (Peak, in press).

First, in agreement with the general notion about Japan, Peak characterizes

Japanese society as focusing more strongly on the process by which things are accomplished than on the resulting product. According to her, this general cultural concern with process first and product second is very evident in the structuring of learning elements, particularly during the preschool and early elementary years. Great attention is paid to the individual child's motivation and attitudes toward the material being presented, and to competence in basic learning skills. Peak summarizes that not only do Japanese teachers and parents pay lip service to these basic aspects of learning, but the genius of the indigenous educational psychology is such that teachers and parents draw on a large cultural repertoire of concrete, didactic methods for development and for the improving of children's motivation and learning skills.

Peak enumerates practices which are universally observed during the initial period of early learning:

(1) Calculated inflation of learner motivation for a considerable period before training begins.

(2) Ritualized overdetermination and repeated practice of basic learning routines until they become second nature.

(3) Training in determining an appropriate mental focus and maintaining concentration.

(4) Development of self-monitoring of the learning performance.

In my view, the phrase "process first and product second" is somewhat misleading, for actually, to the Japanese, process is the means and product is the ends, but the two are inseparable. The Japanese seem to believe that process most conducive to the establishment of task-related habits and attitudes are basic prerequisites for educability. Therefore, Japanese teachers spend much time attempting to establish these habits and attitudes in learners before they

begin to present the curriculum content to children. So although an outside observer might feel often that Japanese adults are meticulous about procedures, the Japanese believe that procedure is indispensable part of the product. If the procedure used is not appropriate, the product, even though it may be quite satisfactory, will still not be evaluated as such. This seems to me to be in contrast with the American pragmatic evaluation, which primarily evaluates the outcome per se, without being concerned with how it is attained.

Second, Peak is aware of the values that careful training in learning routines and development of concentration skills have for better classroom management. As the Japanese proverb, "Make haste slowly" says, a few months of extra effort at the beginning of first grade, will make Japanese children both more attentive and easier to manage.

To illustrate Japanese methods of early training in learning skills and concentration, Peak explained the Suzuki method in detail, as a case where cultural beliefs and practices are clearly exhibited. Rather than repeat her observations, I will mention a few points which reflect the characteristically Japanese views of the learning process. First, children in Japan begin lessons very early, usually in the third year of life. Second, the Japanese try to train children to acquire the capacity to perform at a level well below their maximum capacity. The Japanese seem to believe that with this extra capacity, children can perform freely and creatively. Third, they expose candidate learners to children who will present models for them: they are similar in age with the observers but are more competent, thus providing the observers with attractive models. It should also be noted that the models comprise a larger number of children than the observing children, motivating the latter to join in the former. In agreement with the traditional advice in the Edo period, teachers of

the Suzuki method do not give personal praise to children (e.g., "a smart boy") but simply praise good performance as "skillful."

Peak (in press) defined American cultural attitudes concerning education as focusing immediate on content and being impatient with overly-long practice of the basics. According to her, motivation, concentration, and self-evaluation are seen as functions of personality and therefore inaccessible to effective change, or as functions of age, and therefore to be waited on until the child matures. So strong are these beliefs that the Suzuki method as practiced in the United States had abondoned virtually all of the practices decribed above.

According to Peak, Western academic behavioral psychology and learning theory such as mastery learning have generated a number of suggestions for teaching techniques which are consistent with Japanese practices. To her eyes, however, the combination of these various approaches as a coordinated whole and their widespread prevalence at a grassroot level among Japanese parents and teachers of preschool children points to the existence of a highly sophisticated and effective indigenous educational ethno-psychology among the Japanese (Peak, in press).

Indeed, this unique constellation of various practices is the basic reason that the import of an educational system from one culture to another as a whole extremely difficult. It will not work to skim off the effective methods developed in one culture from the top and import them into the other. As may be well known, Japan has a long history of borrowing theories and practices of technology, education, and arts. Still, this has not been a simple process of adoption but rather a combination of assimmilation and accommodation processes. As Peak notes, when the Suzuki method was introduced to the United States, American teachers' responses were selective. According to her, despite the

Japanese master teachers' repeated explanations at American Suzuki workshops and teaching seminars of why preliminary steps are crucial to later success in the learning endeavor, American teachers generally still continue the American approach. Whether the truncated method will work in the United States, or whether American cultural assumptions concerning young children's learning potential and the most appropriate teaching method will prevent the Suzuki method from functioning correctly in the United States remains to be examined. This is in reality an interesting case of the introduction of an Oriental theory and practice into the West.

Development and learning of preschool and school-age children. In the preceding section, I discussed the idea of unique combinations of practices in a given culture. Underlying these combinations are naive theories of child development and learning, which could also be called developmental or educational 'ethno-psychology.' In what follows I will discuss some of the characteristics of these 'theories' in Japan. These are of course related to the traditional theories of child-rearing and education in Japan reviewed in Part I.

Table 3-1 shows four views of human beings and their development as tabulated by Kojima (1979b) based on the article by Rigel (1973).

Table 3-1 Four views of human beings and their development (Kojima, 1979b)

Type of theory	Nature of organism	Nature of environment	Example
I	Passive	Passive	*Tabula rasa* of Locke
II	Active	Passive	Cognitive developmental theory of Piaget
III	Passive	Active	Teaching machine by Skinner
IV	Active	Active	Dialectic interactionism of Rubinstein

I have argued that it is very difficult to construct any educational theory based completely on Type I of Table 3-1. Thus, though Locke's explanation as to the genesis of ideas was based on a Type 1 model, his theories of education took

an environmentalistic position which attributed differences among people to their education. Indeed, has any educational theory ever existed which insists that education consists of putting a machine-like passive individual into a natural environment which is not organized at all as a means of intervention? Likewise, it is often difficult to derive specific educational schemes and programs directly from Type II theories, which do not admit an active role of the environment in human development. As I noted in Part II of this report, it was not easy to develop preschool programs based on Piaget's theories of cognitive development, and as it turned out, some Piagetian preschool programs stressed the importsnce of active intervention or teaching by the teachers.

Though it is true that there are diverse views of human development and learning processes in Japan, almost all educational theories, both from the pre-modern and modern periods, took, in my view, a position which defined the educational environment as active rather than passive. Therefore, if we use the categories shown in Table 3-1, these theories should either be classified as Type III or IV. As I noted in Part II, however, the Skinnerian view of human beings and related techniques have not been popular in Japan. One exception comes in training programs for the mentally handicapped, and another has been training in the military force. In my view, the military training method adopted in Japan from the period of the Meiji Restoration to World War II was foreign to the common view of human beings and training held in Japanese culture. The origin of this view and its effects on various aspects of Japanese life remain to be examined.

If we exclude the first three types listed in Table 3-1 from the basic Japanese theories on education, there remains only one type of theory, i.e., Type IV, as the basic category for Japanese theories of human development and

education. I will argue that basically, Japanese theories have defined human beings as active learners, and the environment as educationally active, in a manner similar to Soviet theories. This is as far as the formal similarities go, however, for when we examine the contents of Japanese theories, they are different from the Soviet theories. In the following, I will mention a few basic characteristics of Japanese theories of development and learning.

Developmental change emerges from within. Though this is not true for all changes, the Japanese have tended to view major behavioral change in ontogeny as emerging from within the individual. More than two centuries before the introduction of the theory of evolution to this country, Japanese educational ethno-psychology seemed to regard behavioral changes in children as the emergence of some inner force (see, for example, Yamaga in Part I). In modern terms, this notion may be characterized as a biological orientation. Even today, teachers, parents, and other adults often speak of "assigning of learning experience in accordance with children's developmental stages." It is certainly true that this way of thinking is very much reinforced by the maturationist views of development introduced into Japan soon after World War II (e.g., Gesell, Hurlock, and Jersild). In my view, however, biological or maturationist views of development have a long history in Japanese ethno-psychology. Gesell's research method and data strongly attracted the attention of Japanese psychologists and educators, and the Japanese found no difficulty in accepting maturationist views of development.

Though the biological program underlying behavioral change is assumed to be common for all children, the Japanese also recognize the presence of significant individual differences in the speed with which children move from one developmental stage to next, and in the final level of attainment as determined

by the learning ability of the individual child. According to a cross cultural study between Japan and the United States (Kashiwagi & Azuma, 1977), Japanese mothers with preschool children tended to attribute school achievement more to heredity than American mothers. Though no data has been available, Japanese parents' attribution of school achievement to heredity is thought to become stronger when their children reach the ninth grade. This is the time when the uni-linear school system in post-war Japan (i.e., the 6-3-3-4 system) begins to function essentially as the previous multi-linear system (Hamada, 1982). As is well known, compulsory education ends at grade 9, and about 93 percent of the children who take entrance examinations for senior high school find places in a school. Japanese senior high schools have been arranged in a beautifully 'sliced' hierarchical order, each school's status being determined by the number of graduates who enter prestigeous colleges and universities. The colleges and universities are again hierarchically ordered, not by the quality of education they offer but by the difficulty level of the entrance examination.

Under these circumstances, parents and teachers push children to attain a high level of school achievement, and as I have explained in the previous section, competition among children becomes very intense. Main entrance examinations as well as grade school records are scored in the form of standard scores. This evaluation system thus not only makes children very competitive with their peers, but it also discourages effort by relatively slow learners. That is because even if a child improves his absolute attainment level by hard work, his standard score will decrease if his peers improved more on the absolute level. Only a few out of the 40 children in a junior high school class gain places in prestegeous senior high schools, and many average and above average children are led to think of themselves as losers. Because many of these

'losers' believe that they have done their best, it is natural that they tend to attribute their failure not to lack of effort but to their ability. As a matter of fact, the self-image of Japanese children was the lowest among several countries surveyed in a recent comparative study (Prime Minister's Office, 1980). The big differences in self-image between Japanese and Taiwanese junior high school students were found in such scales as 'intelligent,' and 'good at school,' with Japanese children having lower scores (Wang, 1984).

Unique combination of maturationist and environmentalistic views. The biological views of development and the fact of high competition among children, as described above, foreshadow in connection with the view of the active child, another characteristic of Japanese views of the development and learning processes to be dealt with here. In Western thought, the environmentalistic view tends to go with the view of the child as being passive to experience. In Japan, however, the former is combined with the view of the child as an autonomous learning being. To illustrate this, I will quote a recent Japanese newspaper advertisement. The advertisement, which is for educational materials (e.g., records and books) for young children, says: 'Your newborn baby is cute and delightful! But his potential is astonishingly great. He grows on what he absorbs from his environment whether it is good or bad. His makings are vastly influenced by what he absorbs now. If you treat him only with love now, you may well feel great repentance some day.'

Actually, this view is not different from what Kaibara (1710/1976) (see Part I) was saying to the readers of his book more than 270 years ago. The difference between the two is that the present newspaper advertisement refers to findings from recent infant research, which endorse the slogan of 'the competent infant.'

In my view, the concept of young children as autonomous learning beings is one of the chief characteristics of the traditional view of children in Japan. It is logical that adults are advised to construct a good environment for children from the beginning. However, as I have pointed out, it was thought that training of children should be done at the appropriate time, when the children were ready for it. As Yamaga (1633-5, 1976) and Kazuki (1703, 1976) have argued, the caretakers' role was to lead children toward meeting their proper goals, taking every opportunity when changes in child behavior and competence occurred. This task requires caretakers to be perceptive of the behavioral and inner changes of children.

It is true that most present-day Japanese teachers no longer believe in the classical conception of readiness for learning (we should wait until learners are ready). They subscribe rather to the notion that readiness is not something to be waited for but something to be developed. But how can we develop readiness in a child? Some textbooks on educational psychology recommend providing children with sufficient opportunities which will foster readiness. Clearly we can see that readiness is not to be gained from the outside, and that children are thus expected to play an active role in attaining the readiness necessary for learning in the next step. The procedures devised deliberately to motivate children in the Suzuki method, as described earlier, are another example of the process of fostering readiness in children.

This concept is quite different from the former position of Bruner (1960) which did not require readiness as a prerequisite for learning. It also differ from the same kind of position of Soviet psychologists.

Importance of self-regulation. As can be clearly seen from the descriptions of the early training of concentration, the development of the

ability to regulate the self is one of the basic goals of education in Japan Almost all elementary schools and junior high schools in Japan have educational objectives represented in such abstract terms as "healthy body," "cooperativeness," and "basic academic skills." Many schools include the objective of fostering children who have *jishusei*. The term *jishusei*, which can literally be translated as "initiative," means, in my view, "self-regulation." From the teachers' point of view, children who can do good things and refrain from undesirable conduct without being monitored by teachers are one of the goals of education. This means children with internalized control of their own activities. Originally, the control of children's activities comes from outside. i.e., from teachers and parents. However, teachers expect external control to be internalized by children and to function as a self-regulating mechanism. This may be attained either through interaction between the teacher and the child (external control by the teacher will later be taken over by the child . or through direct verbal instruction by the teacher (the child will regulate himself through his understanding). Though the idea that the child will take over the control made initially by the teacher to render it, through adult-child interaction, to a form of self-regulation seems to be similar ideas held by Soviet psychologists, Vigotsky's concept of the proximal zone of development is rather foreign to most Japanese theories. This is because the Japanese tend to consider developmental changes as emerging from the inside.

This emphasis on the role of self-regulation in child development is consistent with the traditional Japanese view of the child as autonomous learning being. It is logical that an autonomous learning organism would be regarded as the being difficult to control completely from the outside.

Importance of interpersonal relations as the context for learning. As has

been mentioned, one of the most popular terms used to describe the general educational objectives in Japanese schools is *kyochosei* [cooperativeness]. This characteristic is desirable not only for children but also for teachers. That trait is always included on recommendation form for teacher candidates which must be filled out by their advisors at college and university.

As has been described in Part I, in a society like Japan where mutually interdependent interpersonal relations are the basic in everyday life, maintenance of harmonious human relationships has been one of the main values pursued. The idea that harmonious relations between the teacher and the child are both the prerequisite and the goal is not restricted to school discipline. It also applies to teaching and learning. As can be seen in several kinds of educational theories and related practices to be dealt with in section B, organization of the learning environment in the aspects of human relationships is the basic task for the teacher to make the classroom a truly functioning one. It appears that the Japanese believe that without the preparation of a good class atmosphere, which is done by establishing harmonious relations between the teacher and the children, and among the children themselves, it would be no use to start teaching any substantial content. This emphasis on classroom atmosphere can be partly attributed to the fact that Japanese teaching-learning activities go on mainly in groups. Surrounded by this group cultural orientation, Japanese children are motivated to join the group to participate in classroom activities, rather than to directly be involved in the learning activity per se. The program devised to motivate newcomers to join the group activity in the Suzuki method is a good example of this basic notion.

Teacher's beliefs concerning teaching method. Kajita, Ishida, Itoh et al. (1985) attempted to clarify the "personal teaching theory" with regard to

mathematics held by Japanese elementary and junior high school teachers. The subjects were 592 elementary and 286 junior high school teachers in Aichi Prefecture. They were asked to respond to a 44-item questionnaire which was constructed to tap their strategies of teaching mathematics. Factor analysis of their responses yielded six factors: 1. Pace of teaching (pupil-centered vs teacher-centered); 2. Styles of instruction (discovery vs. explanation); 3 Use of educational materials (textbook-centered vs. flexible use); 4. Homework (required vs. not required); 5. Teaching styles (formal vs. informal); and 6 Relations with colleagues (collaborating vs. independent). I have renamed these factors in this report to facilitate communication.

Kajita et al. (1985) calculated six scale scores for each of the teachers and then reduced the scale scores to binary ones. Then they classified teachers into clusters based on the binary pattern of the six scale scores. The most frequent (16.9 %) type among the elementary school teachers was as follows: pupil centered in the pace of teaching, preferred discovery-type instruction, mainly used textbooks rather than other materials, assigned home tasks regularly, but took rather formal styles of teaching, and discussed and collaborated with their colleagues. The first three of these characteristics were found in all of the five most frequent patterns in the elementary school teachers. Thus it can be said that typical beliefs held by elementary school teachers with regard to mathematics are that teachers should be pupil-paced, discovery-oriented, and still use mainly textbooks.

The patterns were much more diversified in the junior high school teachers than in the elementary school teachers. The most frequent type in the junior high schools (9.5 %) differed from that in the elementary school teachers in that the former chose informal teaching styles rather than formal ones.

Kajita et al. also asked the teachers to respond with regard to their beliefs separately for teaching students good at mathematics and those poor at it. They found that both the elementary and junior high school teachers tended to allow good pupils to be active and independent, while they tended to give poor pupils much help and to teach them thoroughly.

What Kajita et al. tapped is not teachers' actual behavior but their beliefs or personal theory. It remaines to be examined whether teachers' beliefs are related to their behavior. It also remaines to be seen if Japanese teachers' beliefs are different from those of other countries. However, it is worth noting that the results by Kajita et al. suggest that there may be a combination of six dimensions that is typical of Japanese teachers. That is, especially at the elementary level, the pupil-paced, discovery oriented approach is not seen to be contradictory to the textbook-based, formally structured process of teaching. In addition, at both the elementary and junior high school levels, frequent discussions with colleagues to make plans and to adjust processes are considered very important. Underlying this may be a social belief that at least at the compulsory education level, all students should learn the same things in similar ways.

B. JAPANESE METHODS OF TEACHING AND LEARNING

What are the basic characteristics of contemporary Japanese methods of teaching and how do these methods go about optimizing students' learning processes and achievements? I will try to answer these questions by concentrating on three areas that should be of interest to American researchers and educators. It should be noted, though, that the diversity of methods practiced in Japan might make generalized answers misleading. I hope that the readers of this report take the characteristics I will mention as typical of Japan. I do not mean that they are the most prevalent characteristics, nor do I mean that there are no exceptions. I believe, however, that by describing the basic characteristics of Japanese methods of teaching and learning from the developmental psychologist's view point, I will be able to provide readers with the information they need to construct for themselves the nature of Japanese methods.

Without question there are certain characteristics which are basic Japanese methods of teaching and learning. Some of these are unique to this country, and others similar to those in other countries. Underlying these characteristics, we may postulate the existence of systems of information and ideology which Bronfenbrenner (1979) called *macrosystems*. He attributed the common characteristics observed in a given society to the *macrosystem* which works as the blueprint from which actual practices in the society are produced. It is at the level of the *macrosystem*, then, that the following characterizations will be made.

B1. Group-oriented approach: Teacher-pupil and pupil-pupil interactions

Importance of the classroom in Japanese schools. One of the chief concerns of a teacher when he or she is assigned to a class at the beginning of the

academic year, i.e., April, is the classroom atmosphere. The term *gakkyu zukuri* [constructing classroom organization and atmosphere] clearly express Japanese teachers' objectives in this respect. Though the term *gakkyu keiei* [classroom management] is used officially and academically, the former term matches teachers' psychology better and is very popular among teachers. The classroom is the basic unit of school life, from day care and kindergarten to the junior high school level. Though at the senior high school level the role of the classroom in students' daily school life loses its exclusively dominant place. the classroom still maintains its functions. Even at the college freshman and sophomore level. the classroom seems to have meaning not only from the student management point of view but also from the aspect of students' psychological life.

In the initial phases of classroom construction, the teacher is especially concerned with the group atmosphere of the classroom. The teacher believes that he or she should play an active part in making the classroom atmosphere harmonious and pleasant. so that pupils will be happy to come to class and will enjoy class activities. The teacher is keenly aware of the crucial influence that his or her behavior in the classroom will have on the classroom atmosphere. Many teachers are familiar with the classical research on the effect of the type of leadership on group atmosphere in small groups (Lewin. Lippitt, & White. 1939). Though each teacher knows the importance of his or her classroom behavior and personality to classroom atmosphere, it is inevitable that teachers' interaction patterns in the past will give rise to individual differences in the reputation of each teacher.

Visitors to a Japanese elementary school on the first day of the new school year can often observe an interesting scene. Typically, teachers, pupils, and

parents of the first-graders will all gather in lines at the hall or the playground. Toward the end of the meeting, the principal will announce the name of teacher for each class. In anticipation and anxiety, the pupils' attention is focused on the principal's voice. Immediately after the teacher's name for a class is announced, the pupils of that class will respond to it, and in these responses the visitor can clearly see the differences in popularity of teachers among pupils. Some of the teachers are responded to with cries of joy, and these teachers will sometimes respond to the pupils by striking a pose. Other teachers meet silence when their names are announced, signifying the disappointment of the pupils. Of course, the popularity of a given teacher among the pupils does not necessarily represent his or her qualifications as a teacher. However, teachers recongize that if they are popular among their pupils, they can expect cooperation, and this will make their classroom organization easier.

A number of surveys of Japanese children concerning which type of teacher they like have discovered common characteristics in popular teachers. Both at the elementary and secondary school levels, popular teachers are pleasant and fair, and their teaching is skillful and easy to understand.

In addition to the teacher, of course, interpersonal relationships between pupils play a crucial role in the creation of good atmosphere and organization in the classroom. Therefore, teachers try to understand the relations between the pupils and to guide the group dynamics of the class. Often small groups are constructed by the teacher as units of everyday classroom activities and learning. One cultural and social characteristic of Japan is its long history of organizing small groups within larger ones. Generally speaking, however, teachers do not fully understand the patterns of interaction between the class members. Still, teachers both believe in and also recognize the importance of

teacher-pupil and pupil-pupil interactions in classroom learning. As I will explain in what follows, many of the educational methods currently used and propagated in Japan cannot work without the group consciouness of the classroom

The role of the group in various kinds of educational methods. Various kinds of educational methods have and continue to flourish in Japanese schools Some of these are influenced by foreign theories and methods, and others have been developed by researchers at universities and research institutes. Still others emerged from the experience of the teachers. In spite of other diversities, a number of these methods take the group approach to learning of intellectual subjects.

For example, in addition to collective education [see Part II, section F2], *sho-shudan gakushu* [learning in small group], learning by buzz session, and *jishu kyodo gakushu* [spontaneous and collaborative learning] purposefully make use of the group in learning activities. Also *kasetu-jikken jugyo* [see Part II, section B2], *kyokuchi-hoshiki* [polar expedition method], and *manabi-kata gakushu* [learning how to learn], whose main objective is development of understanding by individual pupils, all deliberately make use of group interaction situations as indispensable measures in learning. I will briefly explain the procedures of these methods in their relation to group activity.

Sho-shudan gakushu was introduced to Japan after World War II mainly from the United States. Typically, a small group consists of four to eight members. In a class of forty pupils, which is typical in Japan, five to ten small groups will be organized. The primary purpose behind the adoption of this method is to allow each pupil to actively participate in learning activities. It is also intended to foster a harmonious and constructive classroom atmosphere, because it is expected that in a small group, each pupil's expression of opinions and

production of ideas, and interpersonal interactions will be facilitated. In addition, each small group is expected to work relatively autonomously from the teacher.

It should be pointed out that this group approach strives for the development and learning of the individual pupil. Typically, this approach makes use of the combination of (1) whole-class activity for problem formulation and for making public the results of group activities, (2) small-group activities for problem solving, and (3) individual thinking before and after the group session. Problems presented often look difficult to individual pupils, but prove to be soluble if all of the knowledge and skills of the children in the group are to be used. This type of problem is the most suitable for group problem solving Such phrases as 'enhancing the individual's ability for self-education,' and 'deepening and sharpening individual thought through interaction with peers' are slogans often seen in the schools. The importance of group activities for the development of all of the participants in particular has recently been given more and more stress (e.g., Zenkoku Shudan Gakushu Kenkyu Kyogi-kai, 1985).

Learning by buzz session, which was proposed by Yoshio Shiota, former Professor of Educational Psychology at Nagoya University, is very similar to *sho-shudan gakushu* in its theoretical orientation and methods (Shiota & Kajita, 1976). The name comes from the buzz session, which was introduced from the United States after World War II. A problem is discussed in small groups, and the conclusions reached by each group are later announced to the entire class The goal is to attain both cognitive objectives of a subject and social and attitudinal objectives through group activities.

Masato Takahata, Professor of Education at Okayama University and one of the proponents of *jishu kyodo gakushu*, explains the three objectives of this method

According to him, the method is meant to attain the following objectives simultaneously: group formation, transmission of knowledge of the particular subject, and learning of "how to learn." By transferring many of the leadership roles from teacher to pupil, the method works to foster attitude of initiative and autonomy on the part of pupils. For that purpose, the teacher organizes the classroom so that all pupils have a role in the learning activities. The H.G.L. (Head of Group Leaders) plays one of the most important roles in the class. It is also necessary for pupils to acquire the skills to conduct group learning.

As has been explained (Part II, section B2), *kaseisu-jikken jugyo* cannot be organized without interactions among the opposing views held by pupils. *Kyokuchi-hoshiki* and *manabi-kata gakushu*, which will be explained in the following sections, are also based on the idea of group activities for the attainment of cognitive goals. In addition to these methods, "human-centered education" and "education for self-actualization" have been proposed under the influence of Carl Rogers by clinical psychologist Hiroshi Itoh (International College of Commerce). This approach stresses the importance of the teacher's attitude in his or her relations with students.

It is of interest to note that even at open schools, where individualized learning has become a central form of learning activity, room is left for group activities (Aichi-ken Higashiura-choritsu Ogawa Shogakko, 1983; Fukumitu Tohbu Shogakko, 1985,. Another school of method, *manabi-kata kyoiku* [education for learning how to learn], is also opposed to the idea of reducing all learning activities to the individual level; this school works to combine three forms of learning. These forms are learning from teachers, learning with a group of classmates, and individual learning (Nihon Manabikata Kenkyu-kai, 1981, Nose, 1980;.

Here I will briefly discuss the role of imitation and modeling in Japanese current educational practices. It would seem logical to expect that in a society such as Japan, where the role of the group and interactions between teacher and pupil and among pupils are stressed, much emphasis would be placed on imitating good role models in school. The reality is, however, quite the contrary It is hard to find cases in school where direct imitation of a model is explicitly encouraged. When I was an elementary school child during and after World War II. teachers often presented models such as peers, heroes, and adults for us to emulate. The decrease in the explicit encouragement of modeling may, in my view, be attributed to an ideological emphasis on individuality in Japanese education after World War II. One rececnt exception is in the field of moral education where models who have attained recommended virtures are presented. Another exception which comes to my mind is athletics, where imitation of a model form is encouraged for effective learning.

However, given Japanese beliefs in the role of the environment in child development, and given the emphasis on group experience in a child's learning. the lack of emphasis on the role of imitation and modeling seems more apparent than real. It is highly possible that Japanese children are implicitly reinforced to imitate good and competent models not only at home but also in school.

What about teachers' attitudes toward the imitation of themselves as role models? An experienced teacher with highly trained skills and personal integrity is respected, or even worshipped by Japanese teachers. One recent example is Kihaku Saitoh whose writings have been published in the form of seventeen-volume collected works from the publisher Kokudo-sha. Though present-day Japanese teachers think that teaching is a profession and not a craft, they believe that

there still remain some components of craft in the art of teaching. Therefore, they believe that it is important to imitate a respectable model, or even to 'steal' the art of teaching to improve themselves It is often said that to learn [*manabu koto*] is to imitate [*maneru koto*].

Incidentally, it is of interest to note that it is a general practice for a Japanese school which is planning to introduce a new educational method to send teachers to 'model schools' which have a reputation of success in that particular method. Though the school may not import all of the practices of the 'model' school, its staff will believe that there is much to be learned from the experienced and advanced model school. Generally speaking, Japanese teachers are very interested in exchanging information about the practices and conditions of their schools. Informal discussions on these matters are one of the chief concerns of teachers who attend various kinds of professional meetings

B2. Major goals and methods of instruction

Do Japanese teachers aim mainly at the acquisition of factual information by their pupils, or at the fostering of pupils' problem solving abilities? With regard to the instruction, is the typical Japanese method teacher-directed or student-centered? Which is the typical Japanese teacher's preferred method, lecture, or discovery? I will present here a generalized answer to these questions.

According to my general impression, or 'prejudice,' the Japanese method has been typically teacher-directed and has relied on lecture, aimed at the transmission of factual information which is the attainment of mankind in general, and of Japanese culture in particular. The reader, however, may feel that this statement is in contradiction with the results obtained by Kajita et al. (section A2). The results by Kajita et al. (1985, show that Japanese

teachers seem to emphasize student-centered teaching, problem solving procedures, and learning through discovery.

Two things must be considered in discussing this matter: the problem of the level of response by teachers, and the means-ends problem. First, it should be pointed out that teachers in the study by Kajita et al. (1985) responded to the questionnaire items by expressing their beliefs and opinions, and not by reporting their own behavior in the classroom. Though the beliefs revealed by the questionnaire items presented by Kajita et al. are logically related to teachers' behavior, this does not necessarily mean that there is evidence that these beliefs are directly related to the teachers' behavior in the classroom.

The second problem is that of means and ends. I would admit that at the behavior level, these teachers, as well as many other Japanese teachers, take student-centered teaching styles and also use the discovery method of instruction. Actually, if one considers the range of freedom, the self-directed explorations, and the autonomous group activities allowed for pupils in the classroom as reflections of their teachers' ultimate educational objectives, my judgment may be wrong.

In my view, however, though many teachers may not be conscious of the fact, problem solving and discovery methods function, in reality, as means to motivate pupils to learn. Many teachers have introduced these methods because they believe that it would be very difficult to the attract attention of learners simply by relying on the teacher-directed, lecture method. However, evaluations of pupils' achievements are made by attainment tests which mainly measure the degree of acquisition of knowledge as widely conceived. Needless to say, of course, by knowledge, I mean not only separate bits of factual information but also a hierarchically organized structure of knowledge.

This knowledge counts greatly in the tests at school as well as in entrance examinations. Both teachers and parents are fully aware of the realities of the Japanese educational situation, and their ultimate criteria concerning the success of education are judged in terms of the degree of knowledge and related skills. As was explained in the preface and section A of Part II, Dewey's basic themes of problem solving in children's actual life and society have never been pursued thoroughly in either pre-war or post-war Japan. Though the Japanese are interested in methods which will secure active participation in the learning process by pupils, scientific knowledge and skills have mainly been considered as goals to be attained rather than as tools to be used in actual problem solving activities. Likewise discovery learning seems to have been incorporated into a more systematic teaching method as a means to stimulate children's motivation for learning. The logic of subject matter with structure and planning seems to have dominated over the logic of the child as an individual.

One possible exception to this may be *kyokuchi-hosiki* (Takashima, Hosoya, & Nakamura, 1974). This is a kind of discovery method developed by Kinzaburo Takahashi (former Professor of Education at Miyagi University of Education, Jun Hosoya (Professor of Education at Tohoku University), and others. It is not a theory-oriented method but rather a practical and experience-based strategy of teaching. Because the time alotted to school is limited and there are too many things to be learned by the children, this method has divided learning into three forms. When a polar expedition team tries to attack, say, a high mountain, it will use aircraft for transportation to a point. Trucks and porters will be used up to the base camp. Only in the last phase of the expedition will the intensive polar expedition method be used. Analogously, some portions of children's learning can be done efficiently by television or by self study. Other parts.

will be taught directly by teachers with ordinary textbooks Some important parts, however, must be attacked intensively through the collaboration of teacher and pupils. This is what the *kyokuchi-hoshiki* [polar expedition method] is about.

In applying this method, teachers do not rely on deliberately prepared methods of inquiry Instead, students are encouraged to "parade one's smattering of knowledge." If the teacher or pupils happen to think of an idea for a solution, they immediately try it. There will be many false steps, but they do not hesitate to make errors. Once blocked by a barrier, they reconsider the situation and try to find another step. This method does not consist of random trial and error. Certainly the solution hypothesis is based on certain principles, but participants believe that the principle should continuously be modified by experience. They also do not rely exclusively on verbal understanding of concepts They try constantly to experiment with all the available scientific measures to produce changes on the object of inquiry and to assess results. To guide teachers, they have published teacher's manuals on the method.

For example, in a fifth grade classroom, the teacher tries to teach children the difference between salt and sugar (Fukaya, 1985). Following the manual, the teacher questions pupils; "How different are salt and sugar? In what way are they similar to each other?" Pupils reply by referring to taste, color, shape, and so on. Then the teacher says, "It is important to examine color and shape first. However, that is not enough to understand the difference. Let's consider what experiments we can use to fully understand the difference between salt and sugar." Out of almost ten methods proposed, the teacher uses four, and the pupils engage in the experiments one by one, discussing the results after each

experiment. These methods are: heating, dissolving in water, boiling the solution, and sending an electric current through the solution. After all the experiments are over and the results tabulated, the teacher and pupils again discuss the difference between salt and sugar. Then, utilizing the methods they have acquired, the children proceed to examine various materials in the science room. Certainly, the flexible goal-directed activity intensively practiced will be very effective in establishing the children's understanding of the differences between the two materials, and in the acquisition of a set of strategies to examine the nature of various kinds of matter. Quite possibly, this learning may transfer to new situations, and even if children face difficulties there, they may divise new methods which will work effectively in new situations.

Effectiveness of purposive and intensive experience in a single field with a focus of transfer is the goal of a different method called *hanrei gakushu* [exemplar learning], introduced from Germany and modified by Hiroshi Inoue, former Professor of Education at Chiba University (Inoue, 1971). This method involves intensively studying an exemplar to the point of full understanding, then bringing trends, common characteristics, and underlying principles, to the attention of the pupils, and finally the facilitating of autonomous self-study, and it is expected to have high transferability. Generally speaking, Japanese teachers are obsessive about teach everything in their textbooks to children. With *kyokuchi-hoshiki*, however, teachers must select some part of the textbook to be dealt with intensively, and other parts are dealt with more briefly. In exemplar learning, Inoue says, the teacher should be brave enough to accept blank fields which cannot be dealt with within the limited amount of time at school teaching.

Here I will discuss briefly the role and effects of memorization drills in

Japanese school. Different from the pre-war methods, which relied heavily on the rote memorization of factual information in various subjects, most of the post-war methods emphasize learning through understanding. Hence, the simple memorization drill is not considered especially important in present-day Japanese schools. One exception at the elementary level is memorization of multiplication tables. Teachers believe that automatic processing of one digit by one digit multiplication is indispensable in more complex calculations, including multiplication, division, extractions of square roots, and so on. However, introduction of tiles as visual and manipulation aids for calculation in the *suido-hoshiki* (see Part II, section B2) makes it easier for the child to understand the content of the processing and the logic of the table. Therefore, it can be said that the role of memorization in present-day Japanese education, with the exception of an overload of factual information required for high school students, is not strong as before.

B3. Individualized approach of teaching

Finally, I will discuss the place of individualized approach of teaching and learning in the present systems of education in Japan. As I have already touched upon open schools and programmed learning (Part II), I will describe briefly a Japanese method for individualized treatment of children within the framework of classroom group teaching.

An elementary school in Shizuoka City (Shizuoka-shiritsu Ando Shogakko, 1970, 1976, 1981) has devised a method called *karute* [student's chart] and *zaseki-hyo* [seating chart]. The former consists of the records for individual pupils during the past several months. Teachers keep record of their impressions, anecdotes, observations, and so on about each of their pupils. The latter, the seating chart, is quite different from the ordinary seating chart

used by teachers to identify pupils. It does not simply consist of the names of the class members The teacher fill the chart with descriptions of each child Typically, the chart is prepared anew for each lesson. Included in the descriptions are pupils' personality, behavior, ways of thinking as grasped by reading through the *karute*, and especially, expectations and predictions for each pupil with regard to the particular lesson. Some teachers write, for example, information about the pupil's ability, personal characteristics, and points to be considered when teaching that pupil. Other teachers write about expectations for a particular pupil during the particular lesson, and plans about getting the pupil to express opinions during the lesson.

One of the basic characteristics of this approach is that teachers are encouraged to take an idiographic point of view of each pupil. They try to exclude typological understanding of the child. This is the reason for the introduction of the system of *karute*, which consists of free descriptions by teachers in place of rating on common scales or the use of psychological tests Teachers are also discouraged from making premature judgments about each child Inconsistent information described on the *karute* is believed to be necessary to attain a true understanding of the child.

In my view, though the idiographic understanding of each child as the basis for effective interaction in the classroom makes the establishment of nomothetic science and technology of education extremely difficult, the notion is heartily supported by teachers who believe that education consists of encounters between teachers and children. My impression on this point was reinforced when I learned of the theoretical orientation of an elementary school in Toyama City. The Elementary School belonging to the Faculty of Education of Toyama University is one of the two leading elementary schools in Toyama Prefecture. Based on the

educational theories of Otto Bollnow, a German philosopher, this elementary school has continue to focus its attention on the role of interlocution and dialogue between teacher and pupil. As a former Professor of Education at Toyama University continued to consult with the teachers, they began to realize the significance of the role of language in the educational process, and to construct an education system based on that notion. Such terms as "respect for the individuality of each pupil" and "humanization of education" are becoming more and more popular in Japan. But it is not clear what is meant by "individuality" and "humanization." Quite different concepts may be included in the same terms. In addition, it is likely that the Japanese conception of "self" is different from that of the West. The functions played by concepts such as individuality and self in the actual educational settings in Japan remains to be examined.

C. PROBLEMS IN JAPANESE EDUCATION

What problems exist in the Japanese education system which seems to be developing superior competence in abilities relevant to classroom learning before children enter elementary school, and where children as young as seven have already been good at tests of mathematics achievement (Stigler, Lee, Lucker & Stevenson, 1982)? The answer to this question depends on the criteria used for "superior performance" and the cultural values attached to these criteria.

Table 3-2 Correlations between children's behavioral characteristics at the age of four and later intelligence and achievement scores (Adapted from Kashiwagi et al., 1984)

	Behavioral character-istics	School related abilities	IQ	IQ	School achievement (teacher rating)			
Age	(4)	(5-6)	(6)	(11)	Language (11)	Reading (12)	Math. (11)	Math (12)
Japan	Impulsivity	-.35	-.49	-.48	-.40		-.34	
	Originality	-.08	.18	.13	-.30		-.03	
(N=44)	Persistence	.25	.39	.41	.47		.42	
US	Impulsivity	-.00	-.03			.20		.18
	Originality	.31	.35			.35		.28
(N=47)	Persistence	.08	.02			-.20		-.18

Note.--Italicized correlation efficients are statistically significant.

C1. Originality and creativity

Let me begin my discussion of the problem by introducing a table which summarizes an aspect of the results of the Japan-US comparative study on early education conducted by Azuma, Hess and others (Table 3-2). One of the most interesting findings in this research is that children's behavioral characteristics as measured at the age of four show a consistent pattern of correlation with children's IQ's and achievement scores from the ages of five to twelve and that the pattern for Japan is different from that for the United States. That is, in Japan impulsivity consistently has negative correlations with, and persistence positive correlations with later intellectual scores. On the other hand, in the United States, originality consistently correlates positively with later intellectual scores.

These results reveal the existence of cultural differences with regard to which type of child is likely to attain higher school achievement, and to be evaluated positively by teachers and other adults. In addition, it is also possible that individual differences with regard to these admired characteristics of children tend to stabilize earlier in one's life than other characteristics. This inference is supported by the data in Table 3-2, which shows that behavioral characteristics at the age of 4 can predict children's intellectual ability from 5 to 12.

According to Azuma, Kashiwagi, & Hess (1981), the variables of maternal attitude and behavior which are correlated with preschoolers' intellectual development also differed from Japan to the United States. Attitude and behavior variables of Japanese mothers which correlated significantly with their child's intellectual achievement did not behave similarly in American mothers Conversely, maternal variables which showed significant correlations with

children's intellectual measures in America did not predict intellectual development of Japanese children.

These results suggest that within each culture there exists a unique pattern of association among the three variables: treatment of children, children's characteristics, and school achievement by the children. They also suggest that beyond the differences in the substantial characteristics of these three variables, there exists in all cultures a common functional relation among the variables: good environment-good children-high achievement by children. In each culture, in other words, when children with highly valued characteristics are supported by a good environment as defined by their culture, they tend to achieve better.

As was explained in the preceeding sections, reflective and persistent children are likely to be valued higher than impulsive and less persistent children in Japan. Not only can the former take advantage of the environment, which appreciates reflectivity and persistence, they are also likely to be evaluated higher by their teachers with regard to their school achievement. Because these children are likely to get more positive responses from adults, they tend to develop a positive image of the self, compared with impulsive and less persistent children. This positive image of self motivates children for better achivement.

On the other hand, in the Japanese sample, children's originality at the age of 4 is unrelated to their later intellectual ability. Though not in a disadvantageous position, Japanese children with high originality will not enjoy the same status at home and school held by reflective and persistent children. They may not be so well treated at school as the latter. This certainly makes a sharp contrast with the highly original children in American society.

It is a cultural stereotype that the Japanese lack in originality in both academic discovery and industrial innovation. Because Japan has a long history of borrowing in the realm of both culture and technology from foreign countries--once from Korea and China, and then from the West--and because Japan has been successful in adopting and assimilating foreign ideas and technology, it is not surprising that Japan is seen as a country very adept at borrowing that has failed to develop original ideas and technology, which still does not appreciate originality in children. It is worth noting that the results by Kashiwagi et al. (1984) are consistent with this cultural stereotype.

Thus far I have discussed the place of originality in Japan. What then is the situation with creativity of Japanese children? Conceptually, originality is one component of creativity (Guilford, 1967). Originality is necessary, but not a sufficient condition for creativity. To be creative, one's original performance needs something valuable. From the philosopher Dewey to such present-day psychologists as Torrance from Georgia and Stevenson from Michigan. American visitors to Japanese kindergartens have been consistently amazed by the quality of children's painting. All these visitors have judged the paintings by Japanese kindergarteners to be highly creative. In my view, however, the problem here is the criteria of creativity. To the eyes of American visitors, the paintings drawn by Japanese preschool children appear very creative while those by American children seem to be scribbles. I suspect that not many Japanese share the views of these American visitors. To Japanese eyes, paintings by Japanese children are not particularly creative. As explained above, creativity is a value-laden concept, and the creativity rating of an object is influenced by the rater's value judgment. Therefore, there is no objective answer as to whether Japanese preschoolers are more creative in their painting than American

children.

Getzels and Jackson (1962) found that American students high in creativity but not so high in intelligence earned better grades than those high in intelligence but not so high in creativity. Generally speaking, the replication studies with Japanese children have not always endorsed the results by Getzels and Jackson. The situation seems to the same as in the case of originality in Japanese preschool children. It is possible that creative children in Japan are not so much appreciated at school. They are not so much motivated for achievement at school, and the performance of these creative children are not judged valuable by teachers.

Though both teachers and politicians pay lip service to the fostering of creativity and originality, highly original or creative children are not highly valued in Japanese educational settings and it is difficult for them to actualize their potentiality and enhance their creativity and originality. The problems of creativity and originality in Japanese children have recently begun to attract the attention of the general public. The main reason for this is that Japan, which has caught up with the Western countries in the academic, technological, and economic fields, is now expected to explore a new field to contribute to mankind, without any models to be imitated. This will be a hard task because, as was reflected in the results obtained by Kashiwagi et al. (1984), less emphasis on creativity and originality is deeply embedded in Japanese culture and society. It is impossible to change a selected aspect of culture and society without considering the total cultural context.

C2. Competition and the criterion of educational excellence

Japanese children seem to become disinterested in growing old and wish to regress to younger ages around the middle of elementary school (Tsukano, 1978,

Personal communication, November, 1985; Tsuzuki, 1981). According to the results of these studies, first- and second- graders in Japan wish to grow old because of the perceived priverages enjoyed by older children and adults, but many fourth and fifth-graders express the wish to become younger. This makes a clear contrast with French children, for whom this inquiry method was first developed (Zazzo, 1969). The reasons given by Japanese children are revealing For example, Japanese fourth-grade children said that they did not want to become older because, "At the higher grades, we must work hard," and "We don't have much time for play." They especially hated the idea of becoming ninth-graders, the period when children must work hard to prepare for the entrance examination for senior high school. The psychological stress imposed on Japanese ninth-graders is enormous, and by the middle of the elementary school years, Japanese children have already begun to anticipate the coming stress and to express their wish to aviod it.

As explained, the Japanese educational system, on principle unilinear, becomes essentially multilinear from the entrance examinations for senior high school. The examination at that level functions to classify children in terms of school achievement. Japanese senior high schools are ranked in a hierarchical order of the achievement level of students. Teachers, parents, and children believe that the level of the senior high school one enters is distinctly related to the level of the college one can enter after three years, and that this in turn is linked to the level of job the student can get after graduation from college. This belief is not groundless, because this prediction formula has worked very well in post-war Japanese society. In addition, the question of whether one decide to go to college or to try to get a job after one finishes senior high school is also largely determined by school achievement.

Though Japanese society is highly competitive, once one gets a stable and well-paid job, it is not difficult to maintain one's position in society. Indeed, there seems to be a social system which deliberately avoids competition among the well-established institutions (e.g., private firms, and local and state governments). Though private firms compete with each other to gain their share of market, generally they do not try to compete with each other to the point at which the survival of their competitors is endangered. This is mainly because they are afraid that the failure of one member of the same business may be detrimental to their own existence. Not only that, it often happens that competitors cooperate with each other to maintain the common interest of the business. In my view, the existence of competitors is functionally useful to define one's own goals and roles clearly. This role of the competitor in defining the goals and roles of a social organization applies even between the opponents. For example, an American researcher on Japanese policy on anti-trust system was surprised by the very friendly relations between private firms and the governmental department impowered to suspend their business activities (Personal communication with Glen Fukushima, February, 1982) The role of the department cannot be defined without the existence of the private firms which tend to break the law. The private firms also try to maintain contact with the supervising department to find ways to bypass governmental restrictions. In a sense both parties are mutually dependent on the other.

This structure of mutual interdependence adds to the stability of organizations, but this is possible only among selected segments of the society, i.e., big businesses and central and local governmental organizations. Japanese children, driven by their parents and teachers to get the tickets to that part of society, begin to compete with each other early in their lives. In a word, the

Japanese social superstructure avoids dangerous competition and thus makes competition among children very hard.

Competition which begins early in one's life is, as I have explained in the biginning of Part III, one of the most plausible reasons for the excellent performance of Japanese children in school learning. Here we encounter, however, the criteria of excellence. If we take high average achievment test scores as a criterion of excellence, no doubt present-day Japanese education is very excellent. On the other hand, however, we have seen that Japanese elementary school children around the age of ten have already anticipated the pressures that will be imposed on them within several years. Their perspectives on life are not future-orientated. In addition, several cross-national surveys (e.g., Prime Minister's Office, 1980; Wang, 1984) have revealed that the level of self-esteem among Japanese children is much lower than in other countries. The self-rating scores given by Japanese elementary and junior high school children are especially low in domains such as school achievement and intelligence. In a society where only a small proportion of children are led to consider themselves as successes, it is no wonder that the average scale scores of self-evaluation concerning achievement and ability are quite low. The latter children's pessimistic perspectives on their future certainly will influence their behavior. Being driven by the fear of failure on important entrance examinations, many of the Japanese children are compelled to work hard, without positive view of themselves in the present or in the future.

For many of Japanese school children, pursuit of excellence does not result in good feelings about themselves, or allows them to appreciate the acholastic accomplishments of others. This situation is one of the chief reasons for recent problems in schools, such as physically and psychologically abusive acts toward

peers, aggression directed to teachers, vandalism, and suicide.

The Japanese are considered very adaptable. If it is true, don't the Japanese try to change this dysfunctional competition? Of course, government, the teachers' union, educators, and parents have begun to propose solution, and in some cases to take concrete action to change the situation. The effects of these trials remain to be seen.

Personally, however, I am rather pessimistic about the future of the situation. The main reason for my pessimism is that competition functions so well in Japan's highly successful industrial complex. Most major firms, as well as the government take only the "cream of the crop" among college graduates from top colleges. Students must be able to pass rigid college entrance examinations to be recruited for the best, and most stable jobs. To pass the entrance examinations for top colleges, one must enter a top senior high school. Because the school achievement of a child is the outcome of accumulated hard work since elementary school or earlier, it is unavoidable that competition begins very early in one's life. Another complicating factor is the Japanese social system, which leads even highly educated mothers, except for a small number of "super mothers," to gain vicarious self-actualization through the accomplishments of their children. Socially prohibited from their own self-realization in society, these mothers take very seriously the job of educating their children for high academic achievement.

Though these two factors are gradually changing, with employers now looking for other strength in job applicants, and with more mothers working not only to earn money but also to actively participate in society, the shift away from academic focus in employers, institutions of higher education, and families is very slow. This is partly because, by their own description, Japanese society is

more than 80 percent middle class. This continues to create tremendous pressures for parents and family to compete for advantageous and stable positions in society.

In conclusion, the seemingly very successful educational and industrial systems in Japan are related, in very complex ways, to the social and historical condition of the country. It is very difficult to change a segment of the whole system without running risk of changing everything. It is also difficult to adopt a segment of a successful system in isolated form to another system. Without the necessary interdependent supporting conditions, the implanted segment may not function well in another soil. The society receiving ideas and technology of education from other societies must go through the processes of adoption, assimilation, and self-transformation, which risk the destruction of the original social system existing before the introduction of the new sub-systems. As I have explained, evaluation of success or failure depends on the values one takes. What appears very functional from one viewpoint may be dysfunctional from the other. We do not fully recognize the strenghts and weakness of our own system of education. Therefore, it is a very fruitful endeavor to exchange ideas and views on educational processes and their outcomes, with full recognition of one's total social system, before one embarks on the reformation of the present system.

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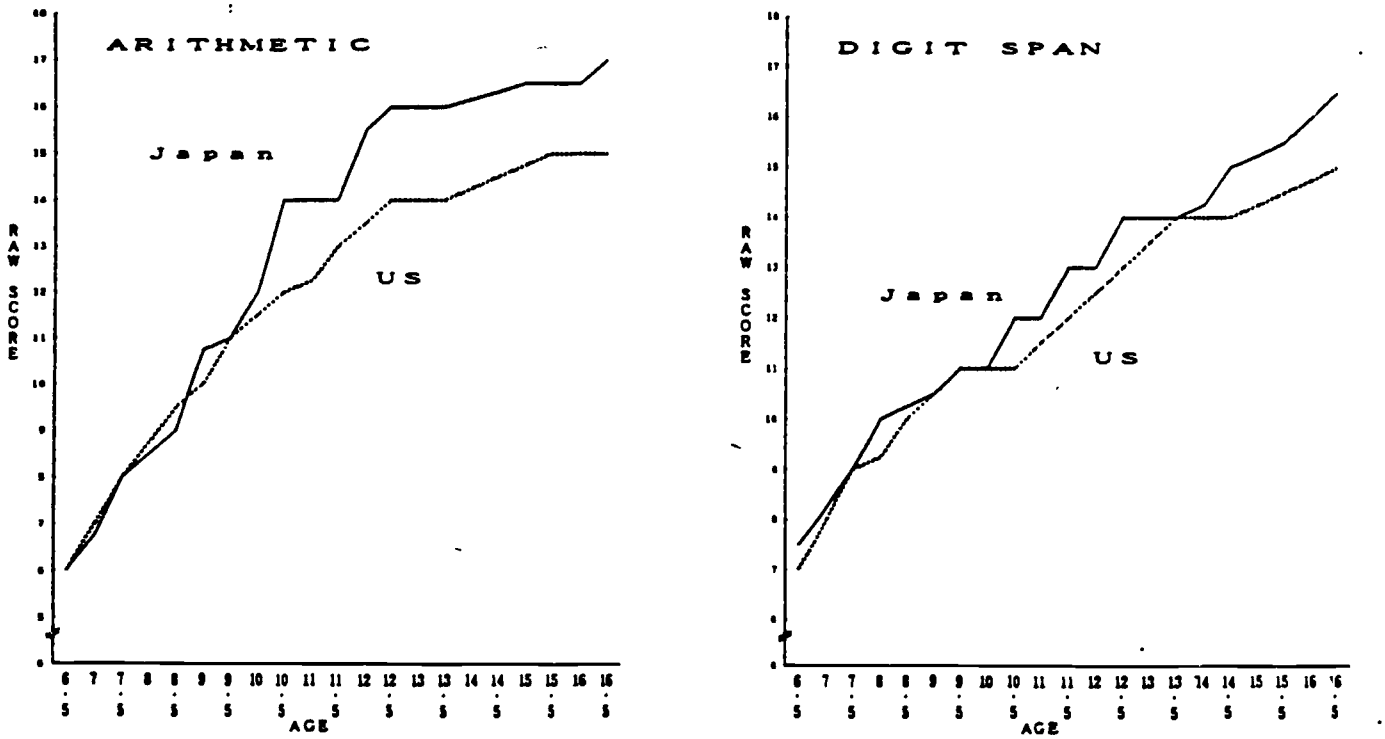

Fig. 3-1 Age functions of Japanese and American standardization samples for the WISC-R: Arithmetic and Digit Span.

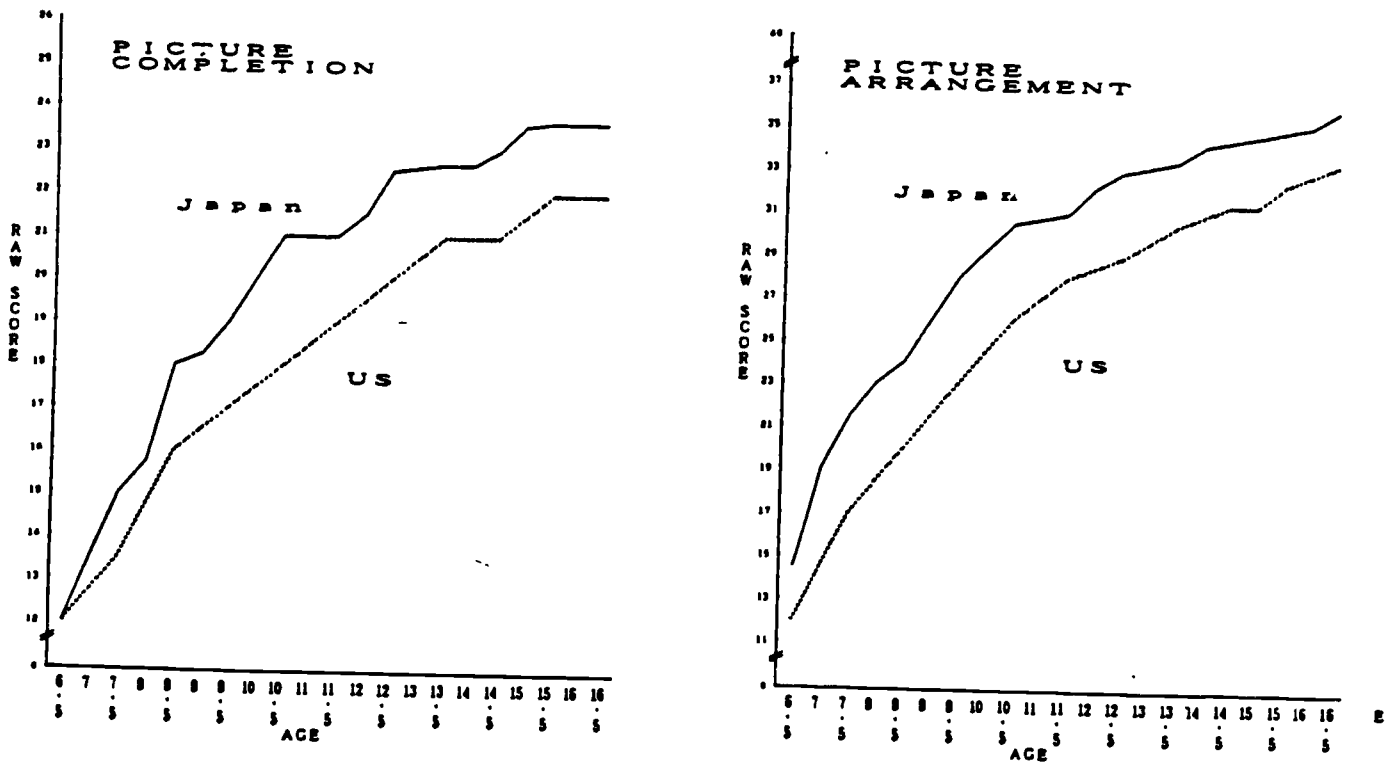

Fig. 3-2 Age functions of Japanese and American standardization samples for the WISC-R: Picture Completion and Picture Arrangement.

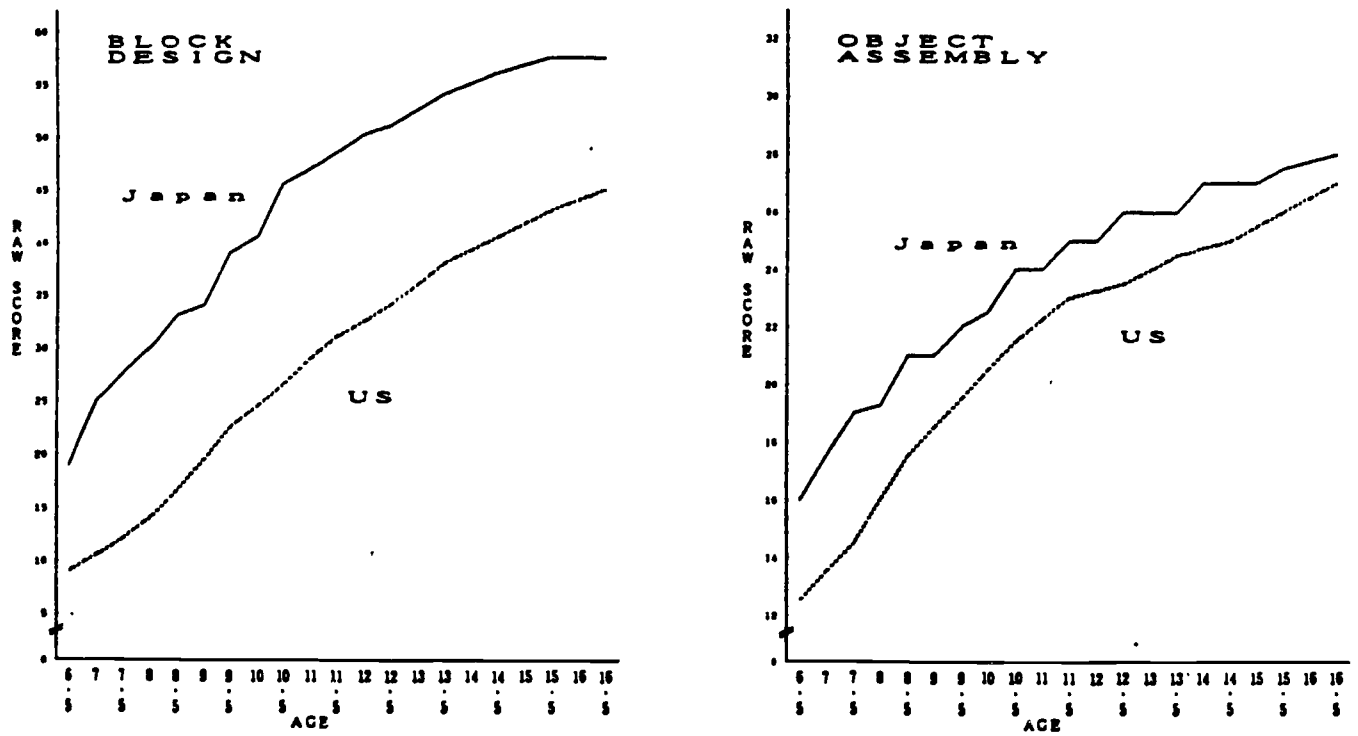

Fig. 3-3 Age functions of Japanese and American standardization samples for the WISC-R: Block Design and Object Assembly.

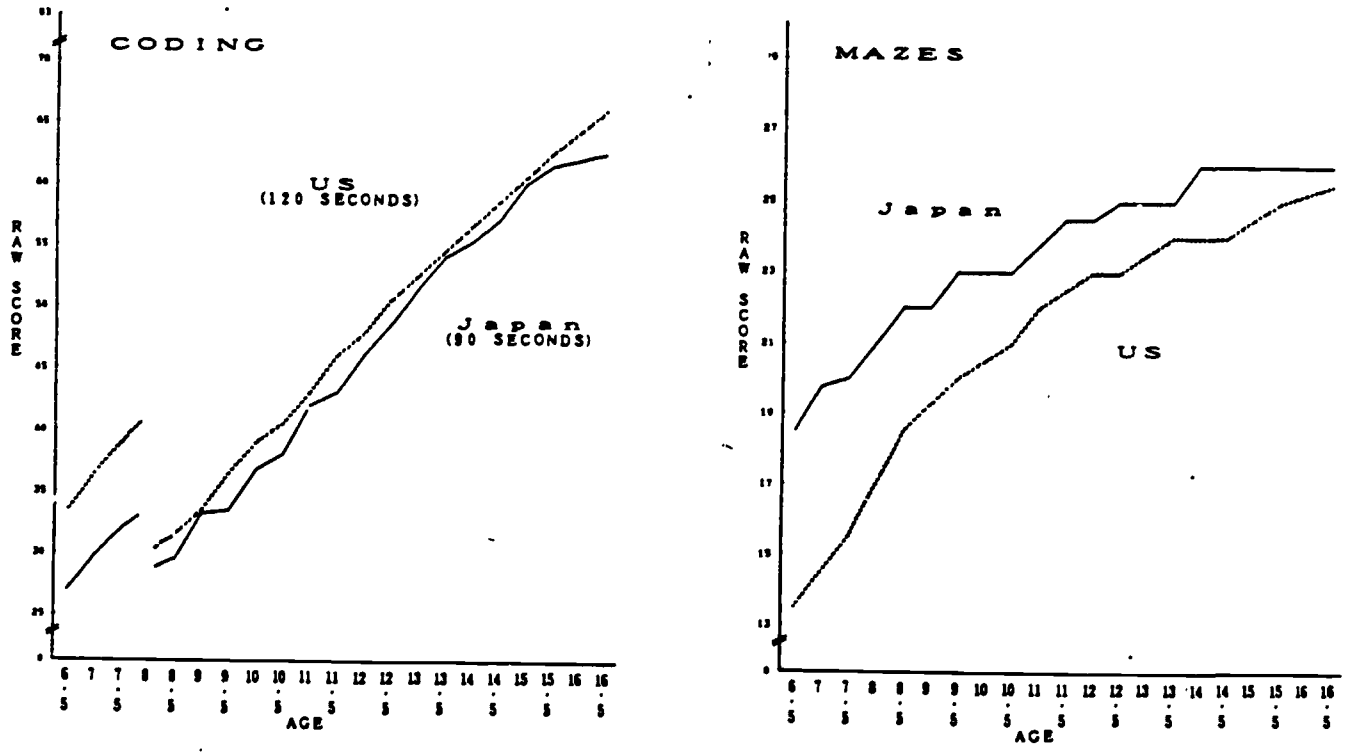

Fig. 3-4 Age functions of Japanese and American standardization samples for the WISC-R: Coding and Mazes.